

DxR CASE AUTHORIZING BOOK

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INTRODUCTION

DxR Clinician incorporates information obtained from a real patient case into a web-based computer template. From a comprehensive menu of history questions, physical examination procedures, lab tests and diagnostic procedures, the student selects items and receives information as it was or would have been presented in the original “live” scenario. All actions are recorded by the program and individual student performance can subsequently be evaluated by comparison to the criteria set by the faculty author. This program can never replace the live patient encounter for teaching interpersonal communication, interviewing skills or “bedside manner.” However, DxR Clinician has several advantages. A DxR Clinician patient problem can easily be replicated at multiple sites, allowing faculty and/or committees to examine the performance of large numbers of students at a minimal expenditure of faculty time.

Selecting a Patient Problem

Historically, clinical cases have been chosen for teaching purposes because they illustrate certain skills of gathering patient history information, conducting a physical exam, interpreting data, forming differential diagnoses, treatment plans, applying knowledge of the natural history of disease, dealing with ethical problems, etc. Experience with DxR Clinician has revealed that a “good” patient problem is one that depends on some prior knowledge, requires interpretation of findings and forces the problem solver to make choices between competing hypotheses. Such problems as abdominal pain, syncope, chest pain, low back pain, headache, shortness of breath, etc. call to mind multiple cases which can be investigated systematically. It is the scrutiny of the student’s investigative process which gives faculty insight into that student’s reasoning ability. In practice, DxR problems work well if the patient has a small number of active problems for which there are multiple competing hypotheses. In addition, the problem should not come to closure quickly, for this type of problem often fails to discriminate experts from those who make good guesses. Whatever scenario you choose, it should be one that satisfies the goals set by the teaching committee, department, etc.

Before Authoring a Case

The clinical faculty member who is familiar with a case that exemplifies the teaching goals should first gather all data needed to recreate the patient problem in computer format. Such material could include a copy of virtually the entire chart. However in practice, the admission history and physical, the discharge summary, copies of lab reports and x-rays, pathology photomicrographs and appropriate available clinical photos will suffice. The ability to author patient problems which address issues of age, gender, ethnicity and socioeconomic status may be accomplished with relative ease by the use of appropriate photographs, name changes, dialogue and appropriate alterations in the history. Before you write or dictate your case data, look over this workbook to see how case data and criteria are organized in the DxR Template.

Using this workbook

Once all case data have been organized and written or dictated, you or your support personnel can use this workbook to organize the data for entry into the DxR Clinician template. We suggest printing the pages of this workbook that contain case data that you would like to add or change. Space is provided to write in your new data. If the space provided isn't sufficient, attach additional information to the appropriate item in the workbook. Case data can be entered into the DxR Clinician template by either the faculty member or a support person.

After Authoring a Case

Once all case data and graphics have been entered, it is important for the case author/faculty member to work through the newly created case just as students will do. This will alert you to any possible typographical errors that might have occurred in the entry process. It will also allow the faculty member to make notes on any changes he/she would like to make in the presentation of case data and the evaluation criteria that will be used to assess student performance.

THE AUTHORING WORKBOOK

The patient information in individual Diagnostic Reasoning (DxR) Cases is stored in a template where your specific case information is entered. A number of authoring tools, including this manual, will facilitate the creation and editing of DxR Cases. This workbook is divided into the following sections:

- Presenting Information Data
- Interview Data
- Physical Exam Data
- Laboratory Test Data
- Management
- Evaluation Data
- Graphics and Sounds

INTERPRET, CONSULT, AND JUSTIFY

Interpret: You may wish to require the student to interpret the patient response/result for any investigation item in the case. Immediately following your results/response, (in the Text box) type a question prompting the student to interpret the result or response (e.g. "How do you interpret this result?"). Then, in the space provided, type in the "Interpret Name" for this interpretation. Generally the name is the question, exam or lab test name.* You may want to indicate to students in the **Patient Response** that an interpretation is required by including text prompting them to make the interpretation. Often, the data to be interpreted are sounds or graphics, but that is not a requirement.

*An example of where the name might be different is listening to heart sounds. You may not want the student to interpret each of the four heart sounds individually, thus the name of the exam to interpret for each would be the same (i.e. Stethoscope|Heart). In this way, the user will need to make only one interpretation for all the heart sounds.

When running the DxR case, users are alerted that an interpretation is required by the appearance of the **Interpret** dialog box. The user has the option of interpreting the data at that time or gathering more information, either from the case itself or from outside resources, before interpreting the data. The student will be required to interpret any data he/she has not already interpreted before making a final diagnosis and quitting the program.

Consult: If you wish to provide text of a professional interpretation of the response for the students, you need to type the text into the field marked Consult. If you enter consultant text, this information will be presented to the user when the student requests a "Consult" while completing the DxR case.

Justify: You can require students to justify their requests for certain case investigation items. Rationalizations given for physical exams or lab tests which are apparently not appropriate often provide insight into reasoning errors, lack of basic science or clinical knowledge, or both. Check the box labeled "Ask user to Justify request" to activate this function for a particular case investigation item.

ADDING MEDIA: GUIDELINES FOR GRAPHICS AND SOUND

You can add your own graphics and sounds to enhance a Diagnostic Reasoning case, but those media must meet certain specifications. Below we've listed where in the Diagnostic Reasoning program graphics and sound files may be included, along with the guidelines for those files.

If you want to include media (graphics and/or sound files) in your Diagnostic Reasoning case, those components must first undergo a process of compression in order to be made usable in a web browser (see note below). Keep in mind that the larger your graphic or sound file, the longer it will take to download. **If you choose to add your own media, make sure your technical support person is aware of the following requirements for graphics and for sound files before they are uploaded to your DxR Online site.**

Graphics:

Formats: .jpg (.jpeg), .gif

File Size/KB: less than 100KB(kilobytes)

File Resolution: 72ppi (pixels per inch)

File Dimensions:

Lab section: 400 pixels (w) by 400 pixels (h)

Exam section: 200 pixels (w) by 400 pixel (h)

Interview section: not recommended

Audio files:

Format: .mp3

File Size: less than 100KB

Note: Compression involves making a compromise between file size and file quality. The larger the file size, the higher the quality, and the longer the download time. Large files not only are slower to download, but they also negatively effect network performance and the web server's ability to respond to other requests.

Media file names

Use care in how you save and name your media files. For example, you must make sure the names of your files don't include spaces. Graphics must be saved as .gif or .jpg and the names must include the file-type extension.

Caution: Simply adding the file extensions to the file name of another type of file doesn't save that file in the proper format.

How to upload your media files

Windows® users should open the Web Folders area and then click Add Web Folder. Type in the web address for the DxR Patient folder (dxrPatnt) and type in your username and password.

Example: <http://yourschool'ssite.dxronline.com/dxrPatnt>

Drag and drop all your graphics and sound files into the new folder.

Macintosh® users must download webDAV software from the downloads page at www.dxronline.com. **Before launching Goliath for the first time, click the Goliath application and open the File menu, then Get Info. Increase the Preferred Memory to 10,000.**

Open the Goliath application. Type in the web address of your site, plus the folder name (see example above). Type your username and password in the spaces provided. When the window for the DxR patient folder appears, drag and drop your media files into the folder.

Macintosh® Users: Saving your connection You can save your connection to avoid having to type in the address, your username and your password each time you up-load files. Before you close the DxR Patient folder, open the file menu and click Save Connection. Name your connection and designate where it should be saved. An icon will appear in the location you designate. Simply double click the icon to access the DxR Patient media folder.

Deleting Media

To remove a graphic or an audio file that you up-loaded to the dxrPatnt media folder, simply access the folder, locate the file you want to remove, and delete it. You must also delete the HTML code for that item in the text field in that section of the case. (See instructions on Removing Links.)

Placing Uploaded Media in a DxR Online case

Graphics, such as x-rays and CT Scans, can be incorporated into the Lab section of the program. The Lab section offers the largest viewing area for such images. Small images can be placed in the response to the Physical Exam, though this area is better suited to the placement of audio files, such as heart and breath sounds. The Interview section, which was designed for the text response to a question, is least suited for graphics. Lab reports that are largely text-based are better presented as text, in HTML tables or lists rather than as scanned images.

To add a graphic, click the Media link, find your file in the list that appears (upper), highlight your file and click Add. Close the Media window. HTML coding for linking your graphic will automatically appear in the Text field, preceding any other text that's entered there. **Click Save Changes to preserve this link.** Your graphic will appear, just as students would see it. Use the backward arrow on your browser to return to the editing window for that lab or exam. **Note:** *If you want the same media to appear when the student accesses Consultant Text, simply highlight and copy the HTML code and any accompanying text you want to duplicate, place your cursor in the "Consult" field and click, then paste the HTML code from the "Text" field into the "Consult Text" field. Remember, you must give students access to Consultants in the Case Delivery Options for these media and their accompanying text to appear as part of the Consultant function.*

To remove the link to a graphic, simply highlight the HTML coding from the Text field and delete the code. Click Save Changes. Be careful not to remove any other coding or text that you'd like to preserve.

Audio files can be used to allow a student to hear a patient's heartbeat and breathing. In some cases, there might also be value in using audio files to present some portion of the Interview (such as to demonstrate slurred speech that support a certain diagnosis).

To add an audio file, click the Media link, find your file in the list that appears (lower), highlight your file and click Add. Close the Media window. The HTML code for linking your audio file will appear in the Text field, preceding any other text that's entered there. **Click Save Changes** to preserve this link. A series of control buttons will appear for you to play, rewind, or stop your audio file. Use the backward arrow on your browser menu to return to the editing window for that item in the case. **Note:** *If you want the same sound to play when the student accesses Consultant Text, simply highlight and copy the HTML code and any accompanying text, place your cursor in the "Consult" field and click, then paste the HTML code from the "Text" field into the "Consult Text" field. Remember, you must give students access to Consultants in the Case Delivery Options for these media and their accompanying text to appear as part of the Consultant function.*

To remove the link to a sound file, simply highlight the HTML coding from the Text field and delete the code. Click Save Changes. Be careful not to remove any other coding or text that you'd like to preserve.

Presenting Situation:

The information you enter for the Presenting Situation is pivotal because it may set the depth to which the student is expected to investigate the problem. If the scenario is set in an emergency room, for example, the student may assume that he/she will be acting more in the capacity of triage agent or may treat only the most critical problems. If the faculty expect a more detailed investigation, then the scenario should be constructed such that the student will perceive this to be the appropriate task.

Enter the patient's name, age, sex, and a very brief description of the presenting problem. If appropriate, give the conditions under which the patient is being seen, e.g., in an emergency room, in a family practitioner's office or in a specialist's office.

Patient Name

Presenting Data

The student will see this information when he/she accesses the DxR case, either through DxR's Waiting room, or by navigating directly to the site that includes the case.

Patient Appearance:

Enter a brief statement regarding the patient's general appearance, including height and weight. This information will allow the person who enters your case data to choose an appropriate picture from the database of patient pictures. If you want to submit a custom photograph to be included for this patient case, contact DxR Technical Support for help in including this photograph in the Presenting Information. Graphics will prepare your chosen graphic for inclusion in the new case you are authoring.

INTERVIEW

The Interview Data includes the patient's presenting situation and responses to interview questions.

One of the easiest ways to "write" a case is to dictate or write out responses to each **applicable** item in the database using the information from the patient's chart, or when the actual data are not available, answering the questions as the patient did. **You should prepare and provide responses for the questions in the first four categories of the interview section (Present Illness, Lifestyles, Medical History, and Psychosocial)** since no "normal" responses are included in the template for Interview questions in those categories. Even though you may provide an answer to all items and do so sequentially, the student will use his/her own logic and sequence of questions. It is important, therefore, that each response stand on its own merit and not depend on an obligate interaction with an answer to another question. Critical information should not be arbitrarily hidden or confused, nor should you "telegraph the diagnosis."

Present Illness: Questions related to the history of the present illness are intended to cover virtually every aspect of a presenting problem. Some questions in this category overlap with questions in other interview categories. However, it's important that you write patient responses that will stand alone without assuming that students have chosen the items that have similar or related information.

Lifestyles, Medical history, and Psychosocial: Questions in these three categories all cover aspects of the patient's history. Depending on the nature of the patient problem, the intended audience, and the intended teaching points, one or more of these categories may not be applicable. Some of the information may be redundant, but remember to frame patient responses that will stand alone, since each user will take a unique route during the solution of the problem.

Interview categories covering the Review of Systems: Responses to all questions in the Skin through General categories cover a "Review of Systems" for the patient, and are already provided in the template as either negative, normal, or not observed, etc. You need to change only those items relevant to your particular case. It should be noted also that some items in the Review of Systems categories appear in more than one category. Raynaud's Syndrome, for example, is found under skin as well as musculoskeletal and circulatory. You should enter the same answer for each.

PRESENT ILLNESS

Present Illness Why are you here today? What problems are you having?

Present Illness When did you first notice the problem? When did it start?

Present Illness Have you noticed anything that makes the problem better or worse?

Present Illness How often do you experience these symptoms?

Present Illness Can you describe the symptoms?

Present Illness How severe are the symptoms?

Present Illness Does anything else happen when you feel these symptoms?

Present Illness Have the symptoms recurred repeatedly or only once? how often?

Present Illness Have you ever experienced anything like this before?

Present Illness Do the symptoms improve or get worse at different times/days/seasons?

Present Illness Have you seen any other physician or specialist about these problems?

Present Illness Has anyone in your family or any friends had any similar problems?

Present Illness Has the problem had any negative effect on your daily routines?

Present Illness Have you noticed any other changes in your daily routines?

Present Illness Have you been ill recently? When? What kind of illness?

Present Illness Have you recently been injured? When? When and what kind of injury?

Present Illness Have any major life changes occurred to cause emotional stress?

Present Illness What do you think the problem might be?

Present Illness Does anything happen before the symptoms occur? Eating, exercise, etc?

Present Illness Encouraging patient to talk

Present Illness Confronting the patient with his own behavior (crying, laughing, anger).

LIFESTYLES

Lifestyles Alcohol

Lifestyles Animals contact/insect bites

Lifestyles Caffeine

Lifestyles Diet

Lifestyles Exercise

Lifestyles Hazards: Environmental and occupational

Lifestyles Over-the-counter drugs: Laxatives, aspirin, cold preparations, etc.

Lifestyles Substance abuse

Lifestyles Tobacco

Lifestyles Travel

MEDICAL HISTORY

Medical History Allergies [Medical History]

Medical History Anesthetic difficulties, personal or family

Medical History Birth history - prenatal, perinatal, postnatal

Medical History Blood transfusions

Medical History Drugs, present medication, past medication, non-medical uses

Medical History Family medical history

Medical History Growth and development history

Medical History Gynecologic history

Medical History Health care professionals currently involved with the patient

Medical History Immunizations

Medical History Injuries

Medical History Past medical history including psychiatric, surgical, previous lab

PSYCHOSOCIAL

Psychosocial Abuse-e.g. threatened, hit, forced to perform sexual acts [Psychosocial]

Psychosocial Average day, activities

Psychosocial Children

Psychosocial Early development, including place of birth

Psychosocial Ethnic background

Psychosocial Family legal history

Psychosocial Family marital history

Psychosocial Family occupational history

Psychosocial Family psychiatric history

Psychosocial Family religious attitudes

Psychosocial Family unit, characteristics and history

Psychosocial Finances, especially for health care

Psychosocial Home situation: Location, suitability, help availability, transportation

Psychosocial Information from friends or family

Psychosocial Information from health contacts

Psychosocial Information from schools, agencies, employer

Psychosocial Legal history

Psychosocial Marital history

Psychosocial Occupational history

Psychosocial Pedigree

Psychosocial Religious attitudes

Psychosocial Schooling

Psychosocial Sexual history, including pregnancies

Psychosocial Significant life events

Psychosocial Social setting (friends, family)

Psychosocial Wishes, fantasies, desires

SKIN

Skin Burning and/or itching [Skin]

“None.”

Skin Hair distribution, changes, alopecia, hair loss [Skin]

“Normal. No recent changes.”

Skin Nail changes

“None.”

Skin Night sweats [Skin]

“None.”

Skin Pain — Skin

“None.”

Skin Photosensitivity

“None.”

Skin Rash

“None.”

Skin Raynaud's Syndrome [Skin]

“None.”

Skin Redness, cyanosis, jaundice, or flushing [Skin]

“None.”

Skin Skin Changes (color, moles, birthmarks, spots)

“None.”

Skin Sweat Disorders [Skin]

“None.”

LYMPH

Lymph Lymph gland enlargement

“None.”

Lymph Pain — Lymph Glands

“None.”

Lymph Redness — Lymph Glands

“None.”

HEAD

Head Aura or warning [Head]

“None.”

Head Hair distribution, changes, alopecia, hair loss [Head]

“Normal. No recent changes.”

Head Headache [Head]

“None.”

Head Pain — Head

“None.”

EYES

Eyes Blindness, visual loss

“None.”

Eyes Double vision [Eyes]

“No problem.”

Eyes Eye dryness

“No problem.”

Eyes Lid droop, ptosis

“None.”

Eyes Pain — Eyes

“None.”

Eyes Reading problems [Eyes]

“None.”

Eyes Redness - Eyes

“None.”

Eyes Visual acuity [Eyes]

“None.”

EARS

Ears Drainage, otorrhea

“None.”

Ears Hearing loss

“None.”

Ears Pain — Ears

“None.”

Ears Redness — Ears

“None.”

Ears Ringing in ears, tinnitus

“None.”

Ears Vertigo [Ears]

“None.”

NOSE

Nose Bloody nose, epistaxis

“None.”

Nose Nasal congestion

“None.”

Nose Olfactory disturbances

“None.”

Nose Pain — Nose

“None.”

Nose Redness — Nose

“None.”

Nose Rhinorrhea or sinus congestion

“None.”

THROAT

Throat Chewing difficulty, mastication

“None.”

Throat Dentition, caries, teeth problems

“Normal.”

Throat Dysphagia swallowing difficulties [Throat]

“None.”

Throat Hoarseness, laryngitis

“None.”

Throat Mouth dryness

“None.”

Throat Mucosa redness

“None.”

Throat Odynophagia

“None.”

Throat Oral ulcers

“None.”

Throat Polydipsia, thirst [Throat]

“None.”

Throat Sore throat

“None.”

Throat Speech disorder (stuttering, slurred or indistinct, poor expression) [Throat]

“None.”

Throat Taste problems [Throat]

“None.”

BREASTS

Breasts Breast changes, lumps or bumps

“None.”

Breasts Nipple discharge

“None.”

Breasts Pain — Breasts

“None.”

Breasts Redness — Breasts

“None.”

CIRCULATORY

Circulatory Ankle swelling, edema

“None.”

Circulatory Arrhythmia; heartbeat: fast, irregular, or palpitations

“None.”

Circulatory Chest pain [Circulatory]

“None.”

Circulatory Claudication

“None.”

Circulatory Cold hands, feet [Circulatory]

“No.”

Circulatory Nocturnal dyspnea [Circulatory]

“None.”

Circulatory Orthopnea [Circulatory]

“None.”

Circulatory Raynaud’s Syndrome [Circulatory]

“None”

Circulatory Redness, cyanosis, jaundice, or flushing [Circulatory]

“None.”

RESPIRATORY

Respiratory Chest pain [Respiratory]

“None.”

Respiratory Cough

“None.”

Respiratory Dyspnea, shortness of breath

“None.”

Respiratory Hemoptysis

“None.”

Respiratory Nocturnal dyspnea [Respiratory]

“None.”

Respiratory Orthopnea [Respiratory]

“None.”

Respiratory Respiratory problems (asthma, bronchitis, wheezing)

“None.”

Respiratory Sputum: consistency, amount, and color

“None.”

GASTROINTESTINAL

Gastrointestinal Abdominal discomfort or cramps

“None.”

Gastrointestinal Appetite [Gastrointestinal]

“Normal.”

Gastrointestinal Bowel habits

“Normal, no recent changes.”

Gastrointestinal Constipation

“None.”

Gastrointestinal Diarrhea

“None.”

Gastrointestinal Dysphagia, swallowing difficulties [Gastrointestinal]

“None.”

Gastrointestinal Encopresis; enuresis; incontinence, urinary and/or fecal

“None.”

Gastrointestinal Heartburn, indigestion

“None.”

Gastrointestinal Hematemesis

“None.”

Gastrointestinal Nausea and/or vomiting

“None.”

Gastrointestinal Pain — Abdominal

“None.”

Gastrointestinal Polyphagia

“None.”

Gastrointestinal Rectal bleeding, discharge, pain

“None.”

Gastrointestinal Stool color (clay, black or bloody)

“Normal.”

Gastrointestinal Taste problems [Gastrointestinal]

“None.”

GENITOURINARY

Genitourinary Bladder control [Genitourinary]

“No problems.”

Genitourinary Dysmenorrhea

Genitourinary Dyspareunia

“None.”

Genitourinary Dysuria, burning, and/or pain

“None.”

Genitourinary Hematuria, urinary bleeding

“None.”

Genitourinary Last menstrual period and/or menstrual history

Genitourinary Libido, changes in [Genitourinary]

“None.”

Genitourinary Menopause

Genitourinary Nocturia

“None.”

Genitourinary Oliguria

“None.”

Genitourinary Polyuria

“None.”

Genitourinary Postmenopausal bleeding

Genitourinary Pregnancy, possible or planned

Genitourinary Redness — Genitourinary

“None.”

Genitourinary Sexual dysfunction

“None.”

Genitourinary Urethral discharge and/or complaints

“None.”

Genitourinary Urinary frequency, urgency, retention

“None.”

Genitourinary Vaginal discharge and/or complaint

"None"

Genitourinary Venereal disease

“None.”

MUSCULOSKELETAL

Musculoskeletal Back pain

“None.”

Musculoskeletal Bones: fractures, sprains, dislocations

“None.”

Musculoskeletal Gait disturbance, locomotion difficulty [Musculoskeletal]

“None.”

Musculoskeletal Joint problems (redness, warmth, swelling, stiffness, sounds)

“None.”

Musculoskeletal Movement disorders, spontaneous movements [Musculoskeletal]

“None.”

Musculoskeletal Muscle problems (soreness, cramps, stiffness, twitching)

“None.”

Musculoskeletal Muscle wasting, weakness, strength loss [Musculoskeletal]

“None.”

Musculoskeletal Neck pain or swelling

“None.”

Musculoskeletal Pain — Muscles or Joints

“None.”

Musculoskeletal Raynaud’s Syndrome [Musculoskeletal]

“None.”

NEUROLOGICAL

Neurological Anxiety, depression, feeling state [Neurological]

“None.”

Neurological Aphasia, communication difficulties, dysarthria

“None.”

Neurological Aura or warning [Neurological]

“None.”

Neurological Balance difficulty

“None.”

Neurological Bladder control [Neurological]

“No problems.”

Neurological Change in consciousness, syncope, fainting

“None.”

Neurological Clumsiness

“No.”

Neurological Convulsions, seizures, fits, epilepsy

“None.”

Neurological Crying [Neurological]

“None.”

Neurological Dizziness, orthostatic

“None.”

Neurological Double vision [Neurological]

“None.”

Neurological Falls

“None.”

Neurological Febrile convulsions

“None.”

Neurological Gait disturbance, locomotion difficulty [Neurologic]

“None.”

Neurological Headache [Neurologic]

“None.”

Neurological Memory loss, confusion (difficult mentation)

“None.”

Neurological Movement disorders, spontaneous movements [Neurologic]

“None.”

Neurological Muscle wasting, weakness, strength loss [Neurologic]

“None.”

Neurological Numbness

“None.”

Neurological Personality or behavior changes [Neurologic]

“None.”

Neurological Psychiatric symptoms (thought aberrations, delusions) [Neurologic]

“None.”

Neurological Reading problems [Neurologic]

“None.”

Neurological Right or Left-Handed

“Right-handed.”

Neurological Right-left confusion

“None.”

Neurological Sensory phenomena (sensory loss, spontaneous or altered sensations)

“None.”

Neurological Speech disorder (stuttering, slurred, indistinct, poor expression) [Neurological]

“None.”

Neurological Transient symptoms, weakness, numbness, visual problems, etc.

“None.”

Neurological Vertigo [Neurologic]

“None.”

Neurological Visual acuity [Neurologic]

“No problems.”

Neurological Writing problems

“None.”

PSYCHOLOGICAL

Psychological Anxiety, depression, feeling state [Psychological]

“None.”

Psychological Crying [Psychological]

“None.”

Psychological Libido, changes in [Psychological]

“None.”

Psychological Personality or behavior changes [Psychological]

“None.”

Psychological Psychiatric symptoms (thought aberrations, delusions) [Psychological]

“None.”

Psychological Suicidal thoughts

“None.”

GENERAL

General Abuse-e.g. threatened, hit, forced to perform sexual acts [General]

General Allergies [General]

“None.”

General Anxiety, depression, feeling state [General]

“None.”

General Appetite [General]

“Normal.”

General Aura or warning [General]

“None.”

General Bleeding, unusual and/or abnormal

“None.”

General Bruising

“None.”

General Burning and/or itching [General]

“None.”

General Cold hands, feet [General]

“No.”

General Fatigue, lack of energy

“None.”

General Fever

“None.”

General Heat and/or cold intolerance

“None.”

General Heat and/or warmth in a body area

“None.”

General Malaise

“None.”

General Night sweats [General]

“None.”

General Pain on movement or exercise — General

“None.”

General Pain, from touch or other stimuli — General

“None.”

General Pain, spontaneous — General

“None.”

General Physical abilities, change in

“None.”

General Polydipsia, thirst [General]

“No unusual thirst.”

General Redness — General

“None.”

General Reduced capabilities

“None.”

General Sleep disorders

“None.”

General Sweat disorders [General]

“None.”

General Weight change

“None.”

PHYSICAL EXAMINATION

In this workbook section, we've listed each physical exam choice in the template. Normal or unremarkable physical examination findings are provided; where appropriate, male and female results are given. Physical examination findings may be entered in two ways. The first and simplest is to create a text response for any appropriate abnormal finding associated with the case. This text is entered to replace the normal (default) response already present. Make sure you refer to and take into account the patient's history, especially the past medical history. This will help you take into account such things as scars from prior surgeries, an absent uterus due to a hysterectomy, etc. The physical examination findings should be presented without any interpretation or editorial comment. One can provide an interpretation as part of the consultant's response if desired.

Note: If you edit results that would show up in more than one exam (i.e. vital signs), you must edit those values in all applicable exams. For example, the patient's heart rate would show up under vital signs and in several individual exams. Edit those results in all applicable exams.

The second way to present physical examination data is to add photographs or sounds to the case (see pages 4 & 5 for the specifications). Photographs of skin, optic fundi, tympanic membranes, the mouth, the body habitus, or motion picture segments of gait or speech, are all valuable teaching aids. Breath, bowel, and heart sounds may also be "played" to add realism to the patient encounter. We recommend the use of headphones plugged into the audio output of the computer to hear heart and breath sounds clearly. As an option, you may ask the student to interpret the visual or auditory information. Since these interpretations are recorded, it is possible to use this information later when evaluating the student's performance. After the interpretation is entered in the appropriate dialog box, you may allow students to request a consultant's interpretation of the data. This option serves as an "equalizer," allowing all students who access the consultant text to proceed on equal footing in spite of the fact that some may have misinterpreted the physical exam data. The consultant option is best applied when using DxR Clinician as a teaching tool. You will be to disable the consultant report function if you so choose. Make note of whether you want to use any of these options as you enter the data for the case.

Caution: If you ask students to interpret all or only the exam results that have an abnormal response, you may "cue" the student that this is important information. To avoid this potential problem, you can present some abnormal visual or auditory findings without requesting an interpretation or present some findings which are not abnormal and seek an interpretation.

VITAL SIGNS

Vital Signs Pulse

Stopwatch - Wrists, Heart, Carotid, Ankles, Feet, Groin, Knees

Vital Signs Temperature

Thermometer - Mouth, Armpits, Rectum

Vital Signs Blood Pressure

Sphygmomanometer - Arms, Legs

BLADE

Blade|Head

Select area for investigation

Blade|Mouth

The patient is able to swallow in a rapid sequence with no difficulty or regurgitation. When the posterior pharyngeal wall is stimulated on both the right and left side, a gag reflex is elicited that is symmetrical. The posterior pharyngeal muscles move symmetrically together in back of the pharynx and the uvula rises symmetrically. The patient notices equal sensation on the both sides of the pharynx.

COTTON

Cotton|Abdomen-lowerLeft

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Abdomen-lowerRight

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Abdomen-upperLeft

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Abdomen-upperRight

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Ankle-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Ankle-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Arm-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Arm-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Back-lowerLeft

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Back-lowerRight

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Back-midLeft

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Back-midRight

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Back-upperLeft

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Back-upperRight

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Chest

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Elbow-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Elbow-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Eye-Left

The corneal reflex is symmetrical and the patient feels the same sensation in both eyes.

Cotton|Eye-Right

The corneal reflex is symmetrical and the patient feels the same sensation in both eyes.

Cotton|Face-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Face-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Foot-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Foot-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|ForeArm-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|ForeArm-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Hand-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Hand-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Hip-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Hip-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Knee-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Knee-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Leg-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Leg-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Neck

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Shoulder-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Shoulder-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Thigh-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Thigh-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Wrist-Left

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

Cotton|Wrist-Right

With eyes closed, the patient is able to perceive touches of a light wisp of cotton.

FEEL

Feel|Abdomen-lowerLeft

There is no tenderness on light or deep palpation. No masses can be palpated. There is no referred pain or rebound tenderness.

Feel|Abdomen-lowerRight

There is no tenderness on light or deep palpation. No masses can be palpated. There is no referred pain or rebound tenderness.

Feel|Abdomen-upperLeft

There is no tenderness on light or deep palpation. The spleen cannot be palpated on deep inspiration. There is no referred pain or rebound tenderness.

Feel|Abdomen-upperRight

There is no tenderness on light or deep palpation. The gallbladder is not palpable. The liver edge is palpable on deep inspiration; it is smooth and non-tender. There is no referred pain or rebound tenderness.

Feel|AbdominalAorta

Palpation over the abdominal aorta revealed pulsations but no evidence of any tenderness or pulsatile mass.

Feel|Ankle-Left

There is no synovial thickening, heat, tenderness, or deformity of the ankle and no bursal tenderness or fullness.

Feel|Ankle-Right

There is no synovial thickening, heat, tenderness, or deformity of the ankle and no bursal tenderness or fullness.

Feel|Arm-Left

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|Arm-Right

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|Armpit-Left

No nodes are palpable in the axilla.

Feel|Armpit-Right

No nodes are palpable in the axilla.

Feel|Back-lowerLeft

No area of tenderness is noted; no masses or deformities are found: palpated respiratory excursion is symmetric. Vocal fremitus is moderate and symmetric.

Feel|Back-lowerRight

No area of tenderness is noted; no masses or deformities are found: palpated respiratory excursion is symmetric. Vocal fremitus is moderate and symmetric.

Feel|Back-midLeft

No area of tenderness is noted; no masses or deformities are found: palpated respiratory excursion is symmetric. Vocal fremitus is moderate and symmetric.

Feel|Back-midRight

No area of tenderness is noted; no masses or deformities are found: palpated respiratory excursion is symmetric. Vocal fremitus is moderate and symmetric.

Feel|Back-upperLeft

No area of tenderness is noted; no masses or deformities are found: palpated respiratory excursion is symmetric. Vocal fremitus is moderate and symmetric.

Feel|Back-upperRight

No area of tenderness is noted; no masses or deformities are found: palpated respiratory excursion is symmetric. Vocal fremitus is moderate and symmetric.

Feel|Breast-Left

Female

On palpation, the glandular breast has a lobular consistency which is homogeneous throughout both breasts; there is no tenderness, and no inframammary ridge is noted; no discrete nodules or areas of induration are present. The mammillary tail is of the same consistency and no masses are palpable in the anterior or posterior axillary folds, against the humerus, or in the cup of the axilla.

Male

Nipples and areolae are symmetric and flat; 2 mm in diameter; nodular feeling with smooth surrounding areolae; no masses are palpable.

Feel|Breast-Right

Female

On palpation, the glandular breast has a lobular consistency which is homogeneous throughout both breasts; there is no tenderness, and no inframammary ridge is noted; no discrete nodules or areas of induration are present. The mammillary tail is of the same consistency and no masses are palpable in the anterior or posterior axillary folds, against the humerus, or in the cup of the axilla.

Male

Nipples and areolae are symmetric and flat; 2 mm in diameter; nodular feeling with smooth surrounding areolae; no masses are palpable.

Feel|Carotid-Left

The carotid is easily palpated and is full. The pulse is vigorous with strong upstroke and gradual collapse.

Feel|Carotid-Right

The carotid is easily palpated and is full. The pulse is vigorous with strong upstroke and gradual collapse.

Feel|Chest

There is no tenderness of the sternum, ribs or costochondral joints.

Feel|Ear-Left

No topi or nodules are palpated. The cartilaginous portion of the ear is non-tender to palpation. Gentle tugging on the pinna or helix does not elicit any discomfort.

Feel|Ear-Right

No topi or nodules are palpated. The cartilaginous portion of the ear is non-tender to palpation. Gentle tugging on the pinna or helix does not elicit any discomfort.

Feel|Elbow-Left

There is no synovial thickening, heat, tenderness, or deformity of the elbow joint; and there are no subcutaneous nodules above the elbow and no bursal tenderness or fullness.

Feel|Elbow-Right

There is no synovial thickening, heat, tenderness, or deformity of the elbow joint; and there are no subcutaneous nodules above the elbow and no bursal tenderness or fullness.

Feel|Face-Left

The skin is smooth, without scars, and no lesions are palpated.

Feel|Face-Right

The skin is smooth, without scars, and no lesions are palpated.

Feel|Foot-Left

There are no areas of heat, tenderness, edema, or soft-tissue thickening; there is no fluid in the joints, no bony enlargement and no crepitation on movement; the ankle mortise is stable.

Feel|Foot-Right

There are no areas of heat, tenderness, edema, or soft-tissue thickening; there is no fluid in the joints, no bony enlargement and no crepitation on movement; the ankle mortise is stable.

Feel|ForeArm-Left

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|ForeArm-Right

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|Genital

Female

There are no palpable cysts or nodules in the external genitalia. On bimanual examination, the vagina easily admits two fingers; the cervix is firm, mobile and non-tender; the isthmus can be felt through the posterior fornix; the uterus is small, globular and non-tender; adnexae on both sides are mobile, palpable and mildly tender; no masses are noted.

Male

The scrotum is relaxed, but the cremasteric response is active; no excoriations or rash are noted; both testes are in the scrotum, both being about 4 cm. long, ovoid, and mildly tender. The epididymis on each side is soft and non-tender, being on the superior and posterior aspect of the testicle; spermatic cord is identified on each side; no cystic or nodular masses are noted on either side and there are no hernias or varicoceles in the scrotum.

Feel|Groin-Left

There are small non-tender, mobile, inguinal nodes.

Feel|Groin-Right

There are small non-tender, mobile, inguinal nodes.

Feel|Hand-Left

There are no crepitations or contractures, and strength is equal and strong; no muscle atrophy, swelling, subcutaneous nodules, heat, or skin changes noted. No synovial thickening or tenderness on joint palpation.

Feel|Hand-Right

There are no crepitations or contractures, and strength is equal and strong; no muscle atrophy, swelling, subcutaneous nodules, heat, or skin changes noted. No synovial thickening or tenderness on joint palpation.

Feel|Heart-Aortic

No thrill or abnormal impulse is noted.

Feel|Heart-Mitral

The left ventricular impulse is lightly palpable and visible in the left fifth intercostal space at the midclavicular line; it lasts less than half of systole, has a tapping quality and occupies an area about 1 cm. in diameter. No heave or thrill is palpable in the precordium. The right ventricle is not palpable.

Feel|Heart-Pulmonic

No thrill or abnormal impulse is noted.

Feel|Heart-Tricuspid

No thrill or abnormal impulse is noted.

Feel|Hip-Left

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|Hip-Right

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|Jaw

The mouth can be fully opened and closed. There is no swelling, tenderness or deformity over the temporomandibular joints; there is no click or crepitation. Strength is good on opening and closing.

Feel|Knee-Left

There are no crepitations on active or passive movement or on palpation of the patella. Strength is equal and good. There are no areas of heat, tenderness, or soft-tissue thickening; no fluid is noted in the joint and there are no bony enlargements about the knee joint.

Medial and lateral collateral ligaments are intact. Cruciate ligaments are intact.

There are no bursal changes, no subcutaneous nodules, and no changes in the surrounding skin.

Feel|Knee-Right

There are no crepitations on active or passive movement or on palpation of the patella. Strength is equal and good. There are no areas of heat, tenderness, or soft-tissue thickening; no fluid is noted in the joint and there are no bony enlargements about the knee joint. Medial and lateral collateral ligaments are intact. Cruciate ligaments are intact.

There are no bursal changes, no subcutaneous nodules, and no changes in the surrounding skin.

Feel|Leg-Left

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|Leg-Right

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|Mouth

With a gloved hand the surface of the mouth and gums are palpated. There was no tenderness or mass palpated under the tongue or along the gums. Wharton's and Stensen's ductal openings were felt and were not tender or abnormal. The posterior of the mouth was felt with the index finger causing the patient to gag. No masses could be felt in Waldeyer's ring.

Feel|Neck

There are no pre- or post-auricular nodes, nor any posterior cervical, anterior cervical or supraclavicular nodes. No tenderness is noted.

Both lobes and the isthmus of the thyroid are small, palpable, smooth, non-tender, without nodules, and rise with the trachea upon swallowing. Sternocleidomastoid and upper trapezius muscles are symmetric, non-tender and relaxed.

Feel|Nose

The nasal cartilage and bones are intact and non-tender to palpation.

Feel|Rectum

The sacrococcygeal area is free of sinus tracts and the perianal area is free of rashes, excoriations, or other lesions; no external hemorrhoids are present; the anal sphincter has good tone; examination produces minimal discomfort; no internal hemorrhoids, irregularities or nodules are palpated; a small amount of soft stool is present in the rectum.

Feel|Scalp

The patient's scalp is smooth and supple; no lesions are noted; size and contour are normal, without apparent deformities. There are no areas of tenderness.

Feel|Shoulder-Left

On palpation, the patient's muscles here seem to have a normal consistency and tone. There is no swelling or deformity in or about the shoulder joints and no heat, or tenderness; no bursal changes are noted and there are no subcutaneous nodules or skin changes. Clavicles are without tenderness at the sternoclavicular or acromioclavicular joints.

Feel|Shoulder-Right

On palpation, the patient's muscles here seem to have a normal consistency and tone. There is no swelling or deformity in or about the shoulder joints and no heat, or tenderness; no bursal changes are noted and there are no subcutaneous nodules or skin changes. Clavicles are without tenderness at the sternoclavicular or acromioclavicular joints.

Feel|Spine

There is no heat, tenderness or soft-tissue thickening over the spinous processes and no palpable crepitations on movement. Back muscles are symmetric; no spasm is felt. There is no tenderness over the spinous processes or the paravertebral or trapezius muscles.

Feel|Thigh-Left

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|Thigh-Right

On palpation, the patient's muscles here seem to have a normal consistency and tone. No areas of heat or tenderness are noted.

Feel|Wrist-Left

There is no synovial thickening, heat, tenderness, or deformity of the wrist and no bursal tenderness or fullness.

Feel|Wrist-Right

There is no synovial thickening, heat, tenderness, or deformity of the wrist and no bursal tenderness or fullness.

FLASHLIGHT

Flashlight|Eye-Left

The pupils respond equally to both direct and consensual light stimulation. On convergence, both pupils constrict promptly and well. A swinging flashlight test produces no paradoxical response.

Flashlight|Eye-Right

The pupils respond equally to both direct and consensual light stimulation. On convergence, both pupils constrict promptly and well. A swinging flashlight test produces no paradoxical response.

HAMMER

Hammer|Ankle-Left

The reflex is 2+.

Hammer|Ankle-Right

The reflex is 2+.

Hammer|Elbow-Left

The left biceps and triceps reflexes are 2+.

Hammer|Elbow-Right

The right biceps and triceps reflexes are 2+.

Hammer|Face-Left

Percussion in front of the ear does not result in the contraction of the facial muscles on this side of the face.

Hammer|Face-Right

Percussion in front of the ear does not result in the contraction of the facial muscles on this side of the face.

Hammer|Foot-Left

Stimulation of the lateral plantar surface of left foot produces a downward excursion of the great toe.

Hammer|Foot-Right

Stimulation of the lateral plantar surface of right foot produces a downward excursion of the great toe.

Hammer|ForeArm-Left

The left brachioradialis reflex is 2+.

Hammer|ForeArm-Right

The right brachioradialis reflex is 2+.

Hammer|Jaw

The jaw jerk is minimally active.

Hammer|Knee-Left

The reflex is 3+.

Hammer|Knee-Right

The reflex is 3+.

Hammer|Shoulder-Left

The deltoid muscle contracts normally.

Hammer|Shoulder-Right

The deltoid muscle contracts normally.

Hammer|Spine

There is no tenderness over the spinous processes or the paravertebral or trapezius muscles.

Hammer|Wrist-Left

On tapping the palmar aspect of the wrist, no pain or tingling is noted.

Hammer|Wrist-Right

On tapping the palmar aspect of the wrist, no pain or tingling is noted.

MOTION

Motion|Ankle-Left

Ankles can be dorsiflexed, plantar-flexed, inverted, and everted voluntarily and passively.

Motion|Ankle-Right

Ankles can be dorsiflexed, plantar-flexed, inverted, and everted voluntarily and passively.

Motion|Arm-Left

Active and passive range of motion is full and without pain; there are no crepitations on joint movements; muscle strength of biceps and triceps is graded 5 on a scale of 0 to 5.

Motion|Arm-Right

Active and passive range of motion is full and without pain; there are no crepitations on joint movements; muscle strength of biceps and triceps is graded 5 on a scale of 0 to 5.

Motion|Back-lowerLeft

Chest expansion is 2 inches.

Motion|Back-lowerRight

Chest expansion is 2 inches.

Motion|Back-midLeft

Chest expansion is 2 inches.

Motion|Back-midRight

Chest expansion is 2 inches.

Motion|Back-upperLeft

Chest expansion is 2 inches.

Motion|Back-upperRight

Chest expansion is 2 inches.

Motion|Chest

Chest expansion is 2 inches.

Motion|Elbow-Left

Range of motion is full; there is no joint instability, there are no crepitations on movement, and strength is good. Passive movement shows a normal resistance.

Motion|Elbow-Right

Range of motion is full; there is no joint instability, there are no crepitations on movement, and strength is good. Passive movement shows a normal resistance.

Motion|Eye-Left

The patient is able to follow the examiner's finger in all the cardinal directions of gaze with no evidence of dysconjugate gaze. The patient is not aware of any double vision during this procedure. There is no obvious abnormality of pursuit or following movements during the examination. No nystagmus is seen.

Motion|Eye-Right

The patient is able to follow the examiner's finger in all the cardinal directions of gaze with no evidence of dysconjugate gaze. The patient is not aware of any double vision during this procedure. There is no obvious abnormality of pursuit or following movements during the examination. No nystagmus is seen.

Motion|Face-Left

The patient is able to raise the eyebrows equally well bilaterally. The forehead is furrowed symmetrically and there is good strength when eyebrows are forcibly pushed downward. The patient is able to close both eyes, and the eyelashes are obliterated to the same degree on both sides. The patient's smile, both on volition and reflexively when laughing, is seen to be symmetrical.

Motion|Face-Right

The patient is able to raise the eyebrows equally well bilaterally. The forehead is furrowed symmetrically and there is good strength when eyebrows are forcibly pushed downward. The patient is able to close both eyes, and the eyelashes are obliterated to the same degree on both sides. The patient's smile, both on volition and reflexively when laughing, is seen to be symmetrical.

Motion|Foot-Left

All toes can be flexed and extended voluntarily, and the passive range of motion is normal.

Motion|Foot-Right

All toes can be flexed and extended voluntarily, and the passive range of motion is normal.

Motion|ForeArm-Left

Muscle strength of flexors and extensors is graded 5 on a scale of 0 to 5.

Motion|ForeArm-Right

Muscle strength of flexors and extensors is graded 5 on a scale of 0 to 5.

Motion|Hand-Left

All fingers can be voluntarily hyperextended; apposition is intact and the patient makes a tight fist. Rapid, complex movements of the fingers are performed well by both hands. The patient is able to manipulate objects, such as a safety pin, with little difficulty.

Motion|Hand-Right

All fingers can be voluntarily hyperextended; apposition is intact and the patient makes a tight fist. Rapidly performed complex movements of the fingers are performed well by both hands. The patient is able to manipulate objects, such as a safety pin, with little difficulty.

Motion|Head

Forward flexion of the head onto the chest is easily performed when the patient is lying down, and the chin can touch the sternum with no limitation or pain.

The patient is capable of laterally rotating *his/her* head against resistance by the examiner; the sternocleidomastoid muscles are strong symmetrically and seem to be full bilaterally.

The patient can touch the chin to both shoulders, extend the neck fully and touch both ears to the shoulders.

Motion|Hip-Left

Active and passive range of motion is full and without pain; there are no crepitations on joint movements; muscle strength is good.

Motion|Hip-Right

Active and passive range of motion is full and without pain; there are no crepitations on joint movements; muscle strength is good.

Motion|Jaw

The mouth can be fully opened and closed. There is no swelling, tenderness or deformity over the temporomandibular joints; there is no click or crepitation. Strength is good on opening and closing.

Motion|Knee-Left

Active and passive range of motion is full. Full range of movement is possible. Strength is good. Passive movement shows a normal resistance.

Motion|Knee-Right

Active and passive range of motion is full. Full range of movement is possible. Strength is good. Passive movement shows a normal resistance.

Motion|Leg-Left

Muscle strength of flexors and extensors is graded 5 on a scale of 0 to 5.

Motion|Leg-Right

Muscle strength of flexors and extensors is graded 5 on a scale of 0 to 5.

Motion|Mouth

Tongue is able to protrude from the mouth. The patient can fully open and close *his/her* mouth; there is no tenderness, swelling or deformity over the temporomandibular joints; there is no click or crepitation. Strength is good on opening and closing; the jaw is symmetric.

Motion|Neck

Forward flexion of the head onto the chest is easily performed when the patient is lying down, and the chin can touch the sternum with no limitation or pain.

The patient is capable of laterally rotating *his/her* head against resistance by the examiner; the sternocleidomastoid muscles are strong symmetrically and seem to be full bilaterally.

The patient can touch the chin to the chest and to both shoulders, extend the neck fully and touch both ears to the shoulders. There are no crepitations with neck movements.

Motion|Shoulder-Left

Deltoid strength is graded 5 on a scale of 0 to 5. Passive movement shows a normal resistance.

The patient can shrug *his/her* shoulders, raise both hands directly above *his/her* head and touch *his/her* hands together behind *his/her* head and behind *his/her* lumbar spine; passive range of motion is full; there are no crepitations on movement of the shoulder joint and muscles are symmetric and strong.

Motion|Shoulder-Right

Deltoid strength is graded 5 on a scale of 0 to 5. Passive movement shows a normal resistance. The patient can shrug *his/her* shoulders, raise both hands directly above *his/her* head and touch *his/her* hands together behind *his/her* head and behind *his/her* lumbar spine; passive range of motion is full; there are no crepitations on movement of the shoulder joint and muscles are symmetric and strong.

Motion|Spine

The patient can bend forward and touch the toes, and the lumbar lordosis is lost. The patient can rotate the shoulders 60 degrees both ways and can touch the knees on either side with lateral bending and extension. Chest expansion is 2 inches.

Motion|Thigh-Left

Muscle strength of knee flexors and extensors is graded 5 on a scale of 0 to 5.

Motion|Thigh-Right

Muscle strength of knee flexors and extensors is graded 5 on a scale of 0 to 5.

Motion|Wrist-Left

Passive movement shows a normal resistance and full range of motion. Wrist flexion, extension, abduction, adduction, pronation and supination are intact.

Motion|Wrist-Right

Passive movement shows a normal resistance and full range of motion. Wrist flexion, extension, abduction, adduction, pronation and supination are intact.

OPHTHALMOSCOPE

Ophthalmoscope|Eye-Left

Make your interpretation when ready.

Click the “Consultant” button for a professional interpretation.

Ophthalmoscope|Eye-Left INTERPRETATION

Disc margins are sharp with medial choroidal crescents and a small visible cup is noted in the center of the disc; its diameter is about one-third that of the disc, the disc is yellowish-pink and lighter in color than the rest of the fundus, which is pinkish.

Arterioles are bright red with a narrow light reflex and there is no tapering or nicking noted where arteries cross veins.

The fovea is shiny, slightly darker pink, and there are no hemorrhages or exudates.

Ophthalmoscope|Eye-Right

Make your interpretation when ready.

Click the “Consultant” button for a professional interpretation.

Ophthalmoscope|Eye-Right INTERPRETATION

Disc margins are sharp with medial choroidal crescents and a small visible cup is noted in the center of the disc; its diameter is about one-third that of the disc, the disc is yellowish-pink and lighter in color than the rest of the fundus, which is pinkish.

Arterioles are bright red with a narrow light reflex and there is no tapering or nicking noted where arteries cross veins.

The fovea is shiny, slightly darker pink, and there are no hemorrhages or exudates.

OTOSCOPE

Otoscope|Ear-Left

The patient's left ear canal is clear; the drum is intact, with a bright cone of light in the pars tensa. The malleus is visible through the drum. There are no concretions nor apparent thickenings in the drum; mastoids are non-tender.

Otoscope|Ear-Right

The patient's right ear canal is clear; the drum is intact, with a bright cone of light in the pars tensa. The malleus is visible through the drum. There are no concretions nor apparent thickenings in the drum; mastoids are non-tender.

PERCUSSION

Percussion|Abdomen-lowerLeft

On percussion, tympanic sounds are heard.

Percussion|Abdomen-lowerRight

On percussion, tympanic sounds are heard.

Percussion|Abdomen-upperLeft

On percussion, tympanic sounds are heard.

Percussion|Abdomen-upperRight

Liver dullness is 6 cm. in the midsternal line and 9 cm. in the right midclavicular line; the area of dullness descends 3 cm. on inspiration.

Percussion|Back-lowerLeft

Percussion note is resonant, relatively loud, low-pitched, of long duration and symmetric in all lung fields. Diaphragmatic excursion is 6 cm. by percussion and is symmetric. Percussion of the costovertebral angle did not elicit any discomfort.

Percussion|Back-lowerRight

Percussion note is resonant, relatively loud, low-pitched, of long duration and symmetric in all lung fields. Diaphragmatic excursion is 6 cm. by percussion and is symmetric. Percussion of the costovertebral angle did not elicit any discomfort.

Percussion|Back-midLeft

Percussion note is resonant, relatively loud, low-pitched, of long duration. Diaphragmatic excursion is 6 cm. by percussion and is symmetric. Percussion of the costovertebral angle did not elicit any discomfort.

Percussion|Back-midRight

Percussion note is resonant, relatively loud, low-pitched, of long duration. Diaphragmatic excursion is 6 cm. by percussion and is symmetric. Percussion of the costovertebral angle did not elicit any discomfort.

Percussion|Back-upperLeft

Percussion note is resonant, relatively loud, low-pitched, of long duration and symmetric in all lung fields.

Percussion|Back-upperRight

Percussion note is resonant, relatively loud, low-pitched, of long duration and symmetric in all lung fields.

Percussion|Face-Left

Percussion in front of the ear does not result in the contraction of the facial muscles on this side of the face.

Percussion of the glabella produces only a momentary closure of the patient's eyes which is symmetrical.

Percussion|Face-Right

Percussion in front of the ear does not result in the contraction of the facial muscles on this side of the face.

Percussion of the glabella produces only a momentary closure of the patient's eyes which is symmetrical.

Percussion|Head

Percussion of the glabella produces only a momentary closure of the patient's eyes which is symmetrical.

Percussion|Mouth

Percussion of mouth produces no observable contraction of the perioral muscles.

Percussion|Spine

There is no tenderness over the spinous processes or the paravertebral or trapezius muscles.

Percussion|Wrist-Left

On tapping the palmar aspect of the wrist, no pain or tingling is noted.

Percussion|Wrist-Right

On tapping the palmar aspect of the wrist, no pain or tingling is noted.

PIN

Pin|Abdomen-lowerLeft

Stimulation of the abdomen with a pin produces a symmetrical contraction in all four quadrants. Sensation is equal over the entire abdomen.

Pin|Abdomen-lowerRight

Stimulation of the abdomen with a pin produces a symmetrical contraction in all four quadrants. Sensation is equal over the entire abdomen.

Pin|Abdomen-upperLeft

Stimulation of the abdomen with a pin produces a symmetrical contraction in all four quadrants. Sensation is equal over the entire abdomen.

Pin|Abdomen-upperRight

Stimulation of the abdomen with a pin produces a symmetrical contraction in all four quadrants. Sensation is equal over the entire abdomen.

Pin|Ankle-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Ankle-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Arm-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Arm-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Back-lowerLeft

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Back-lowerRight

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Back-midLeft

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Back-midRight

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Back-upperLeft

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Back-upperRight

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Chest

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Elbow-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Elbow-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Face-Left

In the areas of the face supplied by each division of the trigeminal nerve, the patient is able to feel the pin well on the left side of the face.

Pin|Face-Right

In the areas of the face supplied by each division of the trigeminal nerve, the patient is able to feel the pin well on the right side of the face.

Pin|Foot-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Foot-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Forearm-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Forearm-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Hand-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Hand-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Hip-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Hip-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Knee-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Knee-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Leg-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Leg-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Neck

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Rectum

Sensation is normal in this area.

Pin|Shoulder-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Shoulder-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Thigh-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Thigh-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Wrist-Left

The patient has normal sensation to stimulation with a pin in this area of the body.

Pin|Wrist-Right

The patient has normal sensation to stimulation with a pin in this area of the body.

POSITION

Position|Ankle-Left

The patient can identify the position of *his/her* foot.

Position|Ankle-Right

The patient can identify the position of *his/her* foot.

Position|Foot-Left

The patient can identify the position of *his/her* toes equally well.

Position|Foot-Right

The patient can identify the position of *his/her* toes equally well.

Position|Hand-Left

The patient can identify the position of *his/her* fingertips equally well.

Position|Hand-Right

The patient can identify the position of *his/her* fingertips equally well.

Position|Wrist-Left

The patient can identify the position of *his/her* hand.

Position|Wrist-Right

The patient can identify the position of *his/her* hand.

OTHER EXAMS

Other Exams Abstractions

The patient interprets proverbs well.

Other Exams Affect

Affect seems appropriate.

Other Exams |Aphasia Testing

During informal conversation there is no evidence of any speech disorder or word substitution. No unintelligible words are noted. The patient can comprehend everything that is said during the examination. The patient can repeat the names of letters, numbers, words, sentences and tongue twisters with no difficulty. There is no evidence of dysarthria. The patient is able to name a number of objects without difficulty and demonstrate their use. The patient can read words in a magazine and understand what is written. The patient also follows a written command with no difficulty. Spontaneous writing is intact.

Other Exams Asterixis

The patient can maintain both wrists in extension.

Other Exams Bulbocavernosus

The contraction of the bulbocavernosus can be felt in the anal canal when the clitoris is compressed.

Other Exams Calculations

The patient subtracts 7 from 100 as a series well.

Other Exams Calorics

When a small amount of ice water is douched into each external auditory canal, a horizontal nystagmus is produced which is greatest in the direction of gaze away from the ear stimulated. The nystagmus has a quick component in the direction of gaze and is of equal intensity and duration in both eyes.

Other Exams Commands

The patient follows all commands well.

Other Exams Comprehension

The patient comprehends well.

Other Exams Concentration

No difficulties are detected.

Other Exams Coordination

No abnormalities are seen on finger-to-nose testing with eyes open or closed. On finger-to-finger-to-nose testing, no dysmetria or intention tremor is noted. Rapid alternating movements of each hand are well performed, although there is slight clumsiness seen in the left hand. The patient can rapidly tap the distal thumb joint with the first finger; no alteration in rhythm placement can be seen.

The heel-to-shin test is performed without dysmetria or intention tremor. The patient can draw a figure 8 with each foot showing little distortion or overshoot.

Other Exams Deep Pain

Compression of the ankle tendon of each foot and forcible flexion of the first finger of each hand produces a deep pain sensation that is uncomfortable to the patient.

Other Exams Gait & Station

The patient stands with no difficulty. There are no postural abnormalities or musculoskeletal abnormalities; no scoliosis; muscle or joint contractures. No involuntary movements or abnormal movements of the musculature are noted.

On walking, there is right-left symmetry in the swing of the arms and in the movements of the legs and pelvis. The feet describe a relatively narrow base. There is reciprocal arm motion in relation to the leg movements. The pelvis and shoulders are stable during walking and the placement of the feet on the floor seems controlled.

Other Exams Graphesthesia

With *his/her* eyes closed, the patient is able to describe objects placed in both hands and is able to distinguish numbers drawn on the back of *his/her* hands.

Other Exams Grasp Reflex

No grasp response can be obtained in either the hands or the feet.

Other Exams Hallucinations

No hallucinations, delusions, etc. are detected.

Other Exams Height and Weight

Other Exams Heel & Toe Walking

On heel and toe walking, the patient is capable of a symmetrical performance with no noticeable sag on either side.

The patient takes a normal two-step turn at the end of the gait.

Foot-hopping is performed well and is symmetrical.

Other Exams Hepatojugular Reflex

The neck veins did not distend further when manual pressure was exerted on the right upper abdomen.

Other Exams Judgment

No defect is noted.

Other Exams Knowledge

The patient's general fund of knowledge seems intact.

Other Exams Memory

Memory appears intact.

Other Exams Mood

Mood is appropriate.

Other Exams Muscle Fasciculation

With good tangential light and repeated tapping of muscle bellies, no fasciculation is seen following percussion with a reflex hammer. There is no evidence of myotatic irritability or myotonia.

Other Exams Naming

No abnormality is demonstrated.

Other Exams Odor

The patient has no noticeable odor.

Other Exams Orientation

The patient is oriented as to time and place.

Other Exams Pastpointing

The patient is able to elevate each arm above the head and bring *his/her* finger down to the examiner's finger with eyes closed.

Other Exams Reading

The patient reads well.

Other Exams Reliability

The patient seems to give reliable responses and is fully cooperative.

Other Exams Repetition

The patient repeats words and phrases well.

Other Exams Romberg

The patient is able to stand, feet together, with eyes both opened and closed. No unusual degree of swaying is noted.

Other Exams Selecting Objects

No difficulties are noted.

Other Exams Sense of Smell

Coffee and cloves are detected with each nostril.

Other Exams Speech

No difficulties are noted.

Other Exams Straight leg Raising

On straight leg raising, there is no discomfort except for pulling sensation in the popliteal space bilaterally. When the leg is extended and the hip fully flexed, forcible dorsiflexion of the foot produces no distress.

Other Exams Suicidal intent

None.

Other Exams Taste

The patient is capable of distinguishing sugar, salt, sweet and sour substances equally well on both sides of the tongue.

Other Exams Thoracic Outlet

On passively elevating the arms over the head, no pulse deficits or discomfort can be elicited. On forceful hyper-abduction of the shoulders, no pulse deficits or discomfort can be elicited. On compression of each shoulder downward, no pulse deficits or discomfort is elicited. On extension of the neck and rotation to each side, no pulse deficits or discomfort is elicited.

Other Exams Thought disorders

None is detected.

Other Exams Tinel's Sign

On tapping the palmar aspect of the wrist, no pain or tingling is noted.

Other Exams Valsalva

A valsalva maneuver was performed with no change in the physical findings.

Other Exams Visual Acuity

A Snellen chart at 20 ft. revealed a visual acuity of 20/20 in each eye.

The patient can read the smallest line (20/20) with each eye on a reading card held at 14 inches.

Other Exams Visual Fields

With both eyes open, the patient can count fingers presented to each visual field simultaneously.

With the appropriate eye closed, the patient's visual fields are assessed using a small white stimulus and they are found to be full with no cuts or scotomata.

Other Exams Writing & Drawing

Writing and drawing ability appear intact.

SPHYGMOMANOMETER

Sphygmomanometer|Arm-Left

120/80 mm Hg

Vital Signs Blood Pressure

Sphygmomanometer|Arm-Right

120/80 mm Hg

Vital Signs Blood Pressure

Sphygmomanometer|Thigh-Left

123/82 mm Hg

Vital Signs Blood Pressure

Sphygmomanometer|Thigh-Right

125/84 mm Hg

Vital Signs Blood Pressure

STETHOSCOPE

Stethoscope|Abdomen-lowerLeft

On auscultation, clicks and gurgles are heard 10 to 15 times per minute and there are occasional borbo-rygmi; no hums, bruits or friction rubs are heard.

Stethoscope|Abdomen-lowerRight

On auscultation, clicks and gurgles are heard 10 to 15 times per minute and there are occasional borborrygmi; no hums, bruits or friction rubs are heard.

Stethoscope|Abdomen-upperLeft

On auscultation, clicks and gurgles are heard 10 to 15 times per minute and there are occasional borborrygmi; no hums, bruits or friction rubs are heard.

Stethoscope|Abdomen-upperRight

On auscultation, clicks and gurgles are heard 10 to 15 times per minute and there are occasional borborrygmi; no hums, bruits or friction rubs are heard.

Stethoscope|AbdominalAorta

No bruits are heard over the abdominal aorta.

Stethoscope|Back-midLeft

Vital signs Respirations

Listen to the breath sounds.
Make your interpretation when ready.
Click the “Consultant” button for a professional interpretation.

Stethoscope|Back-lower

Breath sounds are readily heard throughout the lungs; are symmetric and vesicular, with inspiration being longer than expiration. Breath sounds are low-pitched and of soft intensity. No adventitious sounds are audible.

Stethoscope|Back-midRight

Vital signs Respirations

Listen to the breath sounds.
Make your interpretation when ready.
Click the “Consultant” button for a professional interpretation.

Stethoscope|Back-lower INTERPRETATION

Breath sounds are readily heard throughout the lungs; are symmetric and vesicular, with inspiration being longer than expiration. Breath sounds are low-pitched and of soft intensity. No adventitious sounds are audible.

Stethoscope|Back-upperLeft*Vital signs Respirations*

Listen to the breath sounds.

Make your interpretation when ready.

Click the “Consultant” button for a professional interpretation.

Stethoscope|Back-upper INTERPRETATION

Breath sounds are readily heard throughout the lungs; are symmetric and vesicular, with inspiration being longer than expiration. Breath sounds are low-pitched and of soft intensity. No adventitious sounds are audible.

Stethoscope|Back-upperRight*Vital signs Respirations*

Listen to the breath sounds.

Make your interpretation when ready.

Click the “Consultant” button for a professional interpretation.

Stethoscope|Back-upper INTERPRETATION

Breath sounds are readily heard throughout the lungs; are symmetric and vesicular, with inspiration being longer than expiration. Breath sounds are low-pitched and of soft intensity. No adventitious sounds are audible.

Stethoscope|Carotid-Left

No hum or bruit is heard.

Stethoscope|Carotid-Right

No hum or bruit is heard.

Stethoscope|Chest*Vital signs Respirations*

Listen for heart sounds at the four auscultation areas.

Listen for lung sounds on the back.

Stethoscope|Eye-Left

No bruits are heard over the left eye.

Stethoscope|Eye-Right

No bruits are heard over the right eye.

Stethoscope|Groin-Left

No bruits are heard.

Stethoscope|Groin-Right

No bruits are heard.

Stethoscope|Head

No bruits are heard over the cranial vault.

Stethoscope|Heart-Aortic

Listen to the heart sound.

Make your interpretation when ready.

Click the “Consultant” button for a professional interpretation.

Stethoscope|Heart1 INTERPRETATION

The first heart sound is single and normal in intensity. The splitting of S2 increases with inspiration and decreases with expiration. No murmurs are heard in systole or diastole with the patient seated, supine, or in the left lateral position.

Stethoscope|Heart-Mitral

Listen to the heart sound.

Make your interpretation when ready.

Click the “Consultant” button for a professional interpretation.

Stethoscope|Heart2 INTERPRETATION

The first heart sound is single and normal in intensity. The splitting of S2 increases with inspiration and decreases with expiration. No murmurs are heard in systole or diastole with the patient seated, supine, or in the left lateral position.

Stethoscope|Heart-Pulmonic

Listen to the heart sound.

Make your interpretation when ready.

Click the “Consultant” button for a professional interpretation.

Stethoscope|Heart1 INTERPRETATION

The first heart sound is single and normal in intensity. S2 is unremarkable. No murmurs are heard in systole or diastole with the patient seated, supine, or in the left lateral position.

Stethoscope|Heart-Tricuspid

Listen to the heart sound.

Make your interpretation when ready.

Click the “Consultant” button for a professional interpretation.

Stethoscope|Heart2 INTERPRETATION

The first heart sound is single and normal in intensity. S2 is unremarkable. No murmurs are heard in systole or diastole with the patient seated, supine, or in the left lateral position.

Stethoscope|Neck

Listen at carotid arteries.

STOPWATCH

Stopwatch|Ankle-Left

Vital signs Pulse

The posterior tibial pulse was 3+/4+. Pulse rate is regular at a rate of 60 per minute.

Stopwatch|Ankle-Right

Vital signs Pulse

The posterior tibial pulse was 3+/4+. Pulse rate is regular at a rate of 60 per minute.

Stopwatch|Back-lowerLeft*Vital signs Respirations*

Respiration rate is regular at a rate of 16 per minute.

Stopwatch|Back-lowerRight*Vital signs Respirations*

Respiration rate is regular at a rate of 16 per minute.

Stopwatch|Back-upperLeft*Vital signs Respirations*

Respiration rate is regular at a rate of 16 per minute.

Stopwatch|Back-upperRight*Vital signs Respirations*

Respiration rate is regular at a rate of 16 per minute.

Stopwatch|Carotid-Left*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Carotid-Right*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Chest*Vital signs Respirations*

Respiration rate is regular at a rate of 16 per minute.

Stopwatch|Ear-Left

The patient can hear a ticking watch a distance of one foot away.

Stopwatch|Ear-Right

The patient can hear a ticking watch a distance of one foot away.

Stopwatch|Foot-Left*Vital signs Pulse*

The dorsalis pedis pulse was 2+/4+ and the posterior tibial pulse was 2+/4+. Pulse rate is regular at a rate of 60 per minute.

Stopwatch|Foot-Right*Vital signs Pulse*

The dorsalis pedis pulse was 2+/4+ and the posterior tibial pulse was 2+/4+. Pulse rate is regular at a rate of 60 per minute.

Stopwatch|Groin-Left*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Groin-Right*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Heart-Aortic*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Heart-Mitral*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Heart-Pulmonic*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Heart-Tricuspid*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Knee-Left*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Knee-Right*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Wrist-Left*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

Stopwatch|Wrist-Right*Vital signs Pulse*

Pulse rate is regular at a rate of 60 per minute with slight sinus arrhythmia and there is no variation in amplitude from beat to beat.

THERMOMETER

Thermometer|Armpit-Left

97.6° F

Vital Signs Temperature

Thermometer|Armpit-Right

97.6° F

Vital Signs Temperature

Thermometer|Mouth

98.6° F

Vital Signs Temperature

Thermometer|Rectum

98.7° F

Vital Signs Temperature

TUNING FORK

Tuning Fork|Ankle-Left

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

Tuning Fork|Ankle-Right

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

Tuning Fork|Arm-Left

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Arm-Right

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Back-lowerLeft

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Back-lowerRight

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Back-upperLeft

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Back-upperRight

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Chest

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Ear-Left

A 128 Hz tuning fork placed on the vertex is heard. Air conduction is greater than bone conduction in left ear.

Tuning Fork|Ear-Right

A 128 Hz tuning fork placed on the vertex is heard. Air conduction is greater than bone conduction in right ear.

Tuning Fork|Elbow-Left

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

Tuning Fork|Elbow-Right

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

Tuning Fork|Face-Left

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Face-Right

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Foot-Left

With eyes closed, the patient feels a vibrating tuning fork (128 Hz.) at the toes.

Tuning Fork|Foot-Right

With eyes closed, the patient feels a vibrating tuning fork (128 Hz.) at the toes.

Tuning Fork|ForeArm-Left

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|ForeArm-Right

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Hand-Left

With eyes closed, the patient feels a vibrating tuning fork (128 Hz.) at the fingers.

Tuning Fork|Hand-Right

With eyes closed, the patient feels a vibrating tuning fork (128 Hz.) at the fingers.

Tuning Fork|Hip-Left

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

Tuning Fork|Hip-Right

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

Tuning Fork|Knee-Left

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

Tuning Fork|Knee-Right

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

Tuning Fork|Leg-Left

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Leg-Right

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Neck

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Scalp

A 128 Hz tuning fork placed on the vertex is heard in both ears.

Tuning Fork|Shoulder-Left

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Shoulder-Right

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Thigh-Left

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Thigh-Right

Temperature sensation, as determined with a cold tuning fork, seems normal in this part of the body.

Tuning Fork|Wrist-Left

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

Tuning Fork|Wrist-Right

The patient has normal sensation to stimulation with a vibrating tuning fork in this area of the body.

VIEW

View|Abdomen-lowerLeft

On inspection, the abdomen is symmetric; skin is smooth and soft without striae; venous pattern is minimal and there are no rashes. The abdomen is scaphoid and symmetric without local bulges; no peristalsis or pulsations are visible. The umbilicus is small, inverted, midline, and without signs of inflammation or herniation.

View|Abdomen-lowerRight

On inspection, the abdomen is symmetric; skin is smooth and soft without striae; venous pattern is minimal and there are no rashes. The abdomen is scaphoid and symmetric without local bulges; no peristalsis or pulsations are visible. The umbilicus is small, inverted, midline, and without signs of inflammation or herniation.

View|Abdomen-upperLeft

On inspection, the abdomen is symmetric; skin is smooth and soft without striae; venous pattern is minimal and there are no rashes. The abdomen is scaphoid and symmetric without local bulges; no peristalsis or pulsations are visible. The umbilicus is small, inverted, midline, and without signs of inflammation or herniation.

View|Abdomen-upperRight

On inspection, the abdomen is symmetric; skin is smooth and soft without striae; venous pattern is minimal and there are no rashes. The abdomen is scaphoid and symmetric without local bulges; no peristalsis or pulsations are visible. The umbilicus is small, inverted, midline, and without signs of inflammation or herniation.

View|Ankle-Left

The skin over the ankle has normal hair distribution and is without lesions or edema, including callouses and corns.

The Achilles tendon is smooth, supple, and without nodules. There are no areas of redness.

View|Ankle-Right

The skin over the ankle has normal hair distribution and is without lesions or edema, including callouses and corns. The Achilles tendon is smooth, supple, and without nodules. There are no areas of redness.

View|Arm-Left

The patient's arms are symmetric, well developed and well formed. There are no scars or growths. The muscles are of normal bulk and contour.

View|Arm-Right

The patient's arms are symmetric, well developed and well formed. There are no scars or growths. The muscles are of normal bulk and contour.

View|Armpit-Left

The skin in the armpit has normal hair distribution, and is without lesions or rashes.

View|Armpit-Right

The skin in the armpit has normal hair distribution, and is without lesions or rashes.

View|Back-lowerLeft

When lying down, the patient breathes easily and symmetrically. No use of accessory muscles is noted. The expansion of the chest and abdomen is synchronized.

View|Back-lowerRight

When lying down, the patient breathes easily and symmetrically. No use of accessory muscles is noted. The expansion of the chest and abdomen is synchronized.

View|Back-upperLeft

When lying down, the patient breathes easily and symmetrically. No use of accessory muscles is noted. The expansion of the chest and abdomen is synchronized.

View|Back-upperRight

When lying down, the patient breathes easily and symmetrically. No use of accessory muscles is noted. The expansion of the chest and abdomen is synchronized.

View|Breast-Left

Female

The breasts are symmetric, and skin over the breasts is smooth with no thickening and no alteration in vascular pattern. Nipples are everted, with symmetric areolae which are diffusely reddish brown; there is no discharge, irregularity, or rash, nor any supernumerary nipples. Raising the arms over the head or pressing the hands against the hips does not change breast contour nor produce dimpling.

Male

Nipples and areolae are symmetric and flat, 2 mm in diameter; no abnormalities are seen.

View|Breast-Right

Female

The breasts are symmetric, and skin over the breasts is smooth with no thickening and no alteration in vascular pattern. Nipples are everted, with symmetric areolae which are diffusely reddish brown; there is no discharge, irregularity, or rash, nor any supernumerary nipples. Raising the arms over the head or pressing the hands against the hips does not change breast contour nor produce dimpling.

Male

Nipples and areolae are symmetric and flat, 2 mm in diameter; no abnormalities are seen.

View|Chest

The chest is symmetric; the ratio of AP to lateral diameter is about 1:2. Respiratory movements are full, symmetric, and without retractions; there is no paradoxical movement on expiration; breathing is regular at 16 per minute, without apparent effort or use of accessory muscles.

View|Ear-Left

Auricles are symmetric, normally placed, and without deformities; no area of tenderness is noted. No ear lobe creases are present.

View|Ear-Right

Auricles are symmetric, normally placed, and without deformities; no area of tenderness is noted. No ear lobe creases are present.

View|Elbow-Left

At rest, the left elbow assumes a valgus position; there is no redness or deformity of the elbow joint and no skin changes above the elbow.

View|Elbow-Right

At rest, the right elbow assumes a valgus position; there is no redness or deformity of the elbow joint and no skin changes above the elbow.

View|Eye-Left

Eyes are symmetric in size, shape, color and position. No scars, erythema, or growths are noted on lid or conjunctiva. Cornea is clear; pupil is round, equal and black. Conjunctiva is moist and without discharge.

View|Eye-Right

Eyes are symmetric in size, shape, color and position. No scars, erythema, or growths are noted on lid or conjunctiva. Cornea is clear; pupil is round, equal and black. Conjunctiva is moist and without discharge.

View|Face-Left

The patient is able to raise the eyebrows equally well bilaterally. The forehead is furrowed symmetrically and there is good strength when eyebrows are forcibly pushed downward. The patient is able to close both eyes equally well, and the eyelashes are obliterated to the same degree on both sides. The patient's smile, both on volition and reflexively when laughing, is seen to be symmetrical.

View|Face-Right

The patient is able to raise the eyebrows equally well bilaterally. The forehead is furrowed symmetrically and there is good strength when eyebrows are forcibly pushed downward. The patient is able to close both eyes equally well, and the eyelashes are obliterated to the same degree on both sides. The patient's smile, both on volition and reflexively when laughing, is seen to be symmetrical.

View|Foot-Left

The skin over the foot has normal hair distribution and is without lesions or edema, including callouses and corns.

The arches are concave. There are no areas of redness. The toenails are pink and without deformity, onycholysis or onychomycosis.

View|Foot-Right

The skin over the foot has normal hair distribution and is without lesions or edema, including callouses and corns.

The arches are concave. There are no areas of redness. The toenails are pink and without deformity, onycholysis or onychomycosis.

View|ForeArm-Left

The patient's arms are symmetric, well developed and well formed. There are no scars or growths. The muscles are of normal bulk and contour.

View|ForeArm-Right

The patient's arms are symmetric, well developed and well formed. There are no scars or growths. The muscles are of normal bulk and contour.

View|Genital

Female

The patient's escutcheon is of the female pattern; there are no rashes or excoriations on the external genitalia; the labia are symmetric; the urethral orifice is open and without discharge, situated just below the clitoris; the introitus is without inflammation or visible lesions; no cystocele or rectocele is noted when the patient strains.

On speculum exam, the vagina easily admits the speculum; the vaginal walls are pink, moist and elastic, with prominent rugae; the cervix is symmetric and open, without discharge or eversion, and appears nulliparous.

Male

The penis is without discharge; the skin is of darker color than body skin; patient has been circumcised; the glans is pink, dry and without lesions; the urethral meatus is open and in the center of the glans; no nodules or scars are noted.

View|Groin-Left

Female

Pubic hair is normally distributed, with female escutcheon. No swelling or rash is seen.

Male

Pubic hair is normally distributed, with male escutcheon. No swelling or rash is seen.

View|Groin-Right

Female

Pubic hair is normally distributed, with female escutcheon. No swelling or rash is seen.

Male

Pubic hair is normally distributed, with male escutcheon. No swelling or rash is seen.

View|Hand-Left

There are no obvious joint swellings or deformities and no localized areas of redness or edema. The patient's finger nails are smooth and shiny, neatly trimmed, transparent and normally curved.

View|Hand-Right

The patient is right-handed; there are no obvious joint swellings or deformities and no localized areas of redness or edema. The patient's finger nails are smooth and shiny, neatly trimmed, transparent and normally curved.

View|Hip-Left

Hip joints are symmetric and at equal distance from the floor. No areas of redness or soft-tissue thickening are noted.

View|Hip-Right

Hip joints are symmetric and at equal distance from the floor. No areas of redness or soft-tissue thickening are noted.

View|Jaw

No rash or lesions are seen.

View|Knee-Left

The knees are held in minimal valgus position. Girth above and below the knee is equal on both sides; there are no areas of redness.

View|Knee-Right

The knees are held in minimal valgus position. Girth above and below the knee is equal on both sides; there are no areas of redness.

View|Leg-Left

The patient's legs are symmetric, well developed and well-formed. There are no scars or growths. There is no edema ; no varices are present on the legs.

The muscles are of normal bulk and contour.

View|Leg-Right

The patient's legs are symmetric, well developed and well-formed. There are no scars or growths. There is no edema ; no varices are present on the legs.

The muscles are of normal bulk and contour.

View|Mouth

Twenty-six teeth are present, several in both jaws having filled cavities, and no active caries are noted; teeth are well-aligned and occlusion is symmetric with slight overbite.

Gums are pale red and meet enamel margins of the teeth.

Lips are full, moist, and without ulcers or cracking. Buccal mucosa is pink, moist, and without ulcers or nodules. Hard palate is midline and moves symmetrically. Tongue is full, pink, with normal papillae and without coating. Pharynx is diffusely pink with no exudate; tonsils are small and also without exudate.

View|Neck

The patient's neck is symmetric, without masses or scars.

The hyoid bone, thyroid, cricoid cartilages and trachea are symmetric, in the midline and mobile. Internal jugular pulses are noted to 2 cm. above the sternal angle. On swallowing water the trachea rises well.

View|Nose

The patient's nose is symmetric. Nasal mucosa is pink and moist, with a small amount of clear discharge; the septum is midline and without polyps; the turbinates are pink and moist with a clear passage between them. Maxillary and frontal sinuses transilluminate.

View|Rectum

The skin is unremarkable. There is no rash.

View|Scalp

Hair distribution is full; hair is thick, with good luster.

The patient's scalp is smooth and supple; no lumps, interruptions, or other lesions are noted; the size and contour are normal, without apparent deformities, and there are no areas of tenderness.

View|Shoulder-Left

There is no swelling or deformity in or about the shoulder joints and no redness. Clavicles are symmetric and without deformity or redness at the sternoclavicular or acromioclavicular joints.

View|Shoulder-Right

There is no swelling or deformity in or about the shoulder joints and no redness. Clavicles are symmetric and without deformity or redness at the sternoclavicular or acromioclavicular joints.

View|Spine

The spine is symmetric; there is lumbar lordosis and thoracic kyphosis; the iliac crests are at equal height from the floor. Cervical spine is lordotic and symmetric.

View|Thigh-Left

The patient's thighs are symmetric and well developed. There are no scars or growths. There is no edema; no varices are present on the thighs.

The muscles are of normal bulk and contour.

LAB TESTS

Before entering lab test data, you should select those tests that are appropriate for the investigation of this patient case. It is also wise to consider additional tests that: a) are reasonable to order, but for which you do not have patient results, and b) have abnormal results secondary to the patient's chief complaint, but are not necessary to diagnose the clinical problem. In a large class, there will always be some students who order additional tests that you have not considered. If you do not enter data for a specific test and a student orders that test, the computer program will default to a "normal" response and request that the student provide an explanation for selecting the test. No specific value or result will be given for that test. The student's responses to the "Justify" prompt often provide insight into errors in cognitive knowledge, a student's misinterpretation of the worth of a test, and/or investigation of a well-founded differential diagnosis.

Some lab tests have equivalents (other tests that produce the same information). In the DxR Clinician program, when you change the patient results for a lab, the patient results for all equivalent lab tests will automatically change. Each lab test that has an equivalent is noted below.

If graphics (such as x-rays, slides, cytology smears, photographs) or sound files are available for the case, they can be added to any lab test as digitized resources, if they meet certain specifications (see page 4). Make these graphics available to your technical support person for formatting and for up-loading onto the server. See pages 4 and 5 of this workbook for instructions on linking media to a DxR Clinician case.

As with the physical examination, students may be asked to interpret laboratory findings. Depending on faculty preference, after the student enters the interpretation, a consultant's response may or may not be provided. An alternative to presenting "raw" data (e.g., pictures, video, etc.) is simply to provide a text response or "official" interpretation of the results.

Students may be asked to justify ordering any lab test regardless of its appropriateness or deviation from normal. An apparently random use of the justification function helps decrease cueing that might occur if students are asked to justify only the selection of critical or irrelevant tests.

The following is a complete list of currently available lab tests. Enter your patient results for only the tests you have selected. **Make sure you indicate if an interpretation, justification, and/or consultant text is appropriate for this test. Include a sentence that prompts an interpretation. Also include the consultant text you'd like student to be able to access.** If you need a test that isn't listed, add an additional sheet with the test name and category, your patient results and normal results. You will also need to include the cost of the test, a short definition of the test and its implications. Send all this information to the DxR Development Group. Your new test will be added when your case is assembled.

Blood A-G

11-Deoxycortisol

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

<1 ug/dL without metapyrone >7 ug/dL after metapyrone

17-hydroxyprogesterone

Equivalents:

Normal Values

Adult Male

< 220 ng/dL

Adult Female

Follicular: < 80 ng/dL Luteal: < 285 ng/dL Postmenopausal: < 51 ng/dL

Pediatric

Newborns: < 630 ng/dL Prepubertal females: < 100 ng/dL Prepubertal males: < 110 ng/dL

5-Nucleotidase

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

5-10 U/L

Acetone (Ketone)

Equivalents: Ketone (Acetone)

Normal Values

Adult Male, Adult Female, Pediatric

negative

Acid Phosphatase

Equivalents: Phosphatase, Acid

Normal Values

Adult Male

0.5-11.0 U/L

Adult Female

0.2-9.5 U/L

Pediatric

Newborn: 7.4-19.4 U/L, 2-13yr: 6.4-15.2 U/L

ACTH Stimulation Test

Cost: \$153.50

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Baseline at least 5 ug/dL after cortrosyn rise of at least 10 ug/dL

Blood A-G

Adrenocorticotropin (ACTH)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

20-140 pg/mL ; at midnight approximately 50% of 8 a.m.

Alcohol (EtOH)

Equivalents: Ethanol (EtOH)

Normal Values

Adult Male, Adult Female, Pediatric

Negative

Aldolase

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

1.0-8.0 U/L

Aldosterone (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Standing (normal salt diet): 4-31 ng/dL; Recumbant (normal salt diet): < 16 ng/dL

Alkaline Phosphatase

Equivalents: Bone Alkaline Phosphatase, Phosphatase, Alkaline

Normal Values

Adult Male

16-20 yrs: 65-260 U/L; 20+ yrs: 17-142 U/L

Adult Female

16-20 yrs: 50-130 U/L; 20+ yrs: 17-142 U/L

Pediatric

0-4 yr: 145-320 U/L; 7-10 yr: 175-420 U/L; 12-14 yr: 200-495 U/L (males), 105-420 U/L (females)

Alpha Fetoprotein Level

Equivalents:

Normal Values

Adult Male

2-16 ng/mL

Adult Female

Nonpregnant females: 2-16 ng/mL; 16-18 wks gestation: 25 ng/mL

Pediatric

Male and nonpregnant female: 2-16 ng/mL. Pregnant female: 16-18 wks gestation: 25 ng/mL

Blood A-G

Alpha-1 Antitrypsin

Equivalents: A1AT

Normal Values

Adult Male, Adult Female

126-226 mg/dL (SI: 1.26-2.26 g/L)

Pediatric

93-224 mg/dl

ALT (SGPT)

Equivalents: SGPT (ALT)

Normal Values

Adult Male, Adult Female

0-45 units/L

Pediatric

0-1 month: 0-54 units/L, 1 month to adult: 0-45 units/L

Amino Acid Screen

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal

Ammonia, NH₄ (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

3-37 umol/L

Amylase

Equivalents:

Normal Values

Adult Male, Adult Female

25-115 units/L; elderly: 21-160 U/L

Pediatric

25-115 U/L; newborn: 6-65 U/L

Androstenedione

Equivalents:

Normal Values

Adult Male

75-205 ng/dL (SI: 2.6-7.2 nmol/L)

Adult Female

85-275 ng/dL (SI: 3.0-9.6 nmol/L) values are higher in pregnancy

Pediatric

male: 1-3 mo: 20-45 ng/dL (SI: 0.7-1.6 nmol/L), 3-5 mo: 10-40 ng/dL (SI: 0.3-1.4 nmol/L); female:

1-3 mo: 15-25 ng/dL (SI: 0.5-0.9 nmol/L), 3-5 mo: 10-15 ng/dL (SI: 0.3-0.5 nmol/L)

Blood A-G

Angiotensin Converting Enzyme (ACE)

Equivalentents:

Normal Values

Adult Male, Adult Female

8-53 units/L (SI: 0.14-0.88 ukat/L)

Pediatric

8-53 U/L

Anti-Cardiolipin Antibody

Equivalentents: Anti-Cardiolipin Antibody-IMMUNO

Normal Values

Adult Male, Adult Female, Pediatric

Negative

Arterial Blood Gases (ABG)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

pH: 7.35-7.45 ; pO₂: 80-98 mm Hg ; pCO₂: 34-46 mm Hg ; Oxygen saturation: 90%-98% ; Bicarbonate: 23-27 mEq/L

AST (SGOT)

Equivalentents: SGOT (AST)

Normal Values

Adult Male, Adult Female

0-41 units/L

Pediatric

0-1 mo: 0-74 U/L; 1 mo- adult: 0-41 U/L

Barbiturate

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative unless used in therapy; therapeutic: short-acting: 1-5 ug/mL, intermediate-acting: 5-14ug/mL, long-acting: 15-35 ug/mL

Bicarbonate, HCO₃ (Blood)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

28-30 mEq/L

Bilirubin (Blood) (Direct & Indirect)

Equivalentents:

Normal Values

Adult Male, Adult Female

Total: 0.0-1.0 mg/dL; direct: 0.0-0.2 mg/dL; indirect: 0.0-0.8 mg/dL

Pediatric

0-1 day: <6 mg/dl; 1-2 days: <8 mg/dl; 3-7 days: 12 mg/dl; 7-30 days: <7 mg/dl; thereafter: total: 0.0-1.0 mg/dL; direct: 0.0-0.2 mg/dL; indirect: 0.0-0.8 mg/dL

Blood A-G

Blood Alcohol (EtOH)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative

Blood Sugar (Fasting)

Equivalents: Glucose (Fasting) , Fasting Blood Sugar (FBS)

Normal Values

Adult Male, Adult Female

Fasting: 70-105 mg/dL

Pediatric

Child: 60-100 mg/dL; newborn: 30-80 mg/dL

Blood Volume (whole blood)

Equivalents: Blood Volume (Whole Blood) - NUCLEAR

Normal Values

Adult Male, Adult Female, Pediatric

55-80 mL/kg

Bone Alkaline Phosphatase

Equivalents: Alkaline Phosphatase, Phosphatase, Alkaline

Normal Values

Adult Male, Adult Female

0-130 U/L

Pediatric

0-30 days of age: 20-225 units/L, 30 days to 10 yrs: 50-260 units/L, 15+ yrs: 0-130 units/L

BUN

Equivalents: Urea Nitrogen (BUN)

Normal Values

Adult Male, Adult Female

5-20 mg/dL

Pediatric

Birth-1 yr: 4-16 mg/dL; 1+ yrs: 5-20 mg/dL

C-Peptide

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Fasting: 0.5-2.5 ng/mL (SI: 0.17-0.83 nmol/L) after glucose stimulation values rise to 5.6 ng/mL (SI: 1.87 nmol/L)

C-Reactive Protein (CRP)

Equivalents: C-Reactive Protein (CRP) - IMMUNO

Normal Values

Adult Male, Adult Female, Pediatric

<.8 ug/dL

Blood A-G

Calcitonin

Equivalents:

Normal Values

Adult Male, Adult Female

<19 pg/mL (SI: <19 ng/L)

Pediatric

Newborns: 70-348 pg/mL; children: 0-19 pg/mL

Calcium, Ca (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female

8.5-10.5 mg/dL

Pediatric

Children: 8-10 mg/dL

Calcium (Free, ionized)

Equivalents:

Normal Values

Adult Male, Adult Female

4.52-5.28 mg/dL (1.12-1.32 mmol/L)

Pediatric

Newborn <48 hr: 4.0-4.7 mg/dL (1.00-1.18 mmol/L)

Carbon Dioxide Content, CO₂

Equivalents:

Normal Values

Adult Male, Adult Female

24-32 mEq/L

Pediatric

0-12 yrs: 18-24 mEq/L, 12+ yrs: 24-32 mEq/L

Carbon Monoxide, CO

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Non smokers: 0.0-2.0% of total hemoglobin; heavy smokers: 2.0-10.0% of total hemoglobin

Carcinoembryonic Antigen (CEA)

Equivalents: CEA (Carcinoembryonic Antigen) - IMMUNO

Normal Values

Adult Male, Adult Female, Pediatric

Nonsmoker: 0-3 ng/mL, smoker: 0-5 ng/mL

Blood A-G

Cardiac Isoenzymes

Equivalents: CPK-MB (CK-MB)

Normal Values

Adult Male, Adult Female

CPK Isoenzymes: MM 96-100%, MB 0-4%, BB 0%; LDH Isoenzymes: LDH1: 14-26%, LDH2: 29-39% cardiac or RBC origin, LDH3: 20-26%, LDH4: 8-16%, LDH5: 6-16% Hepatic and skeletal, Differences of 2-4% are usually normal, Cardiac Troponin T: Negative

Pediatric

Newborn: 30-1500 IU/L; Child: 50-150 IU/L

Carotenoids (carotene)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

10-85 ug/dL (SI: 0.2-1.6 umol/L)

Capillary Blood Gases (CBG)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

pH: 7.35-7.45; pO₂, <90 mm Hg; pCO₂: 26.4-41.2 mm Hg; O₂ saturation: 95-99%

Celiac Sprue (ARA, AGA, Endomysial Antibodies)

Equivalents: Endomysial Antibodies (ARA & AGA for Celiac Sprue)

Normal Values

Adult Male, Adult Female, Pediatric

No antibody demonstrated

Ceruloplasmin

Equivalents:

Normal Values

Adult Male, Adult Female

20-40 mg/dL (SI: 1.26-2.52 umol/L)

Pediatric

21-53 mg/dl

Chloride, Cl (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female

96-110 mmol/L (mEq/L)

Pediatric

99-111 mmol/L (mEq/L)

Blood A-G

Cholesterol, lipids (HDL, LDL, VLDL, Triglycerides and Total)

Equivalentents: Lipids, Cholesterol

Normal Values

Adult Male, Adult Female, Pediatric

desirable: 120-200 mg/dL; boderline: 201-239 mg/dL; high: 240+ mg/dL

Cholinesterase

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

5.9-12.3 units/mL

CK (CPK, Creatine Kinase)

Equivalentents: Creatine Kinase (CPK, CK)

Normal Values

Adult Male, Adult Female

25-145 U/L

Pediatric

10-200 U/L

Clotting Time (glass, blood)

Equivalentents: Clotting Time (Glass, blood) - HEME

Normal Values

Adult Male, Adult Female, Pediatric

8-15 minutes

Copper, Cu (Blood)

Equivalentents:

Normal Values

Adult Male, Adult Female

approx. 70-155 ug/dL

Pediatric

0-6 mo: 20-70 ug/dl; 6yr: 90-190 ug/dl; 12yr: 80-160 ug/dl

Cortisol

Equivalentents:

Normal Values

Adult Male, Adult Female

8 am: 5-23 ug/dL; 4 pm: 3-16 ug/dL

Pediatric

newborn: 1-24 ug/dL; 1+ wk: 8 am: 5-23 ug/mL, 4 pm: 3-16 ug/mL

Blood A-G

CPK-MB (CK-MB)

Equivalents: Cardiac Isoenzymes

Normal Values

Adult Male, Adult Female, Pediatric

0.0-5.0 ng/mL

Creatine Kinase (CPK, CK)

Equivalents:CK (CPK, Creatine Kinase)

Normal Values

Adult Male, Adult Female

96-114 u/L

Pediatric

newborn/infant:65-580 u/L; male child: 56-185 u/L (6-11 yrs), 25-185 u/L (12-18 yrs); female child: 50-145 u/L (6-7 yrs), 35-145 u/L (8-14 yrs), 96-140 u/L (15-18 yrs)

Creatinine (Blood)

Equivalents:

Normal Values

Adult Male

0.6-1.3 mg/dL

Adult Female

0.5-1.2 mg/dL

Pediatric

Newborn: 0.3-1.0 mg/dl; Infant: 0.2-0.4 mg/dl; child: 0.3-0.7 mg/dl; adolescent: 0.5-1.0 mg/dl

D-Dimer

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

<500 ng/mL

Dexamethasone Suppression Test

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Morning after dexamethasone has been administered: <5 ug/dL

Drug Screen (toxicology, quantitative)(Blood)

Equivalents: Drug Screen (toxicology, quantitative)(Urine)

Normal Values

Adult Male, Adult Female, Pediatric

None detected

Electrolytes (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Please order individual tests

Blood A-G

Endomysial Antibodies (ARA & AGA for Celiac Sprue)

Equivalents: Celiac Sprue (ARA, AGA, Endomysial Antibodies)

Normal Values

Adult Male, Adult Female, Pediatric

No antibody demonstrated

Estradiol Serum

Equivalents:

Normal Values

Adult Male

10-60 pg/mL

Adult Female

Follicular phase: 25-75 pg/mL; midcycle peak: 200-600 pg/mL; luteal phase: 100-300 pg/mL; Pregnancy: 1st trimester: 1-5 ng/mL; 2nd trimester: 5-15 ng/mL; 3rd trimester: 10-40 ng/mL; Postmenopause: 5-25 ng/mL

Pediatric

Prepubertal children: <25 pg/mL; males 10-60 pg/mL; females: follicular phase: 25-75 pg/mL; midcycle peak: 200-600 pg/mL; luteal phase: 100-300 pg/mL

Ethanol (EtOH)

Equivalents: Alcohol (EtOH)

Normal Values

Adult Male, Adult Female, Pediatric

Negative

Fasting Blood Sugar (FBS)

Equivalents: Blood Sugar (Fasting), Glucose (Fasting)

Normal Values

Adult Male, Adult Female

Fasting: 70-105 mg/dL

Pediatric

Child: 60-100 mg/dL; newborn: 30-80 mg/dL

Folic Acid (Folate)

Equivalents:

Normal Values

Adult Male, Adult Female

>2.5 ng/mL

Pediatric

>3 ng/ml

Follicle-Stimulating Hormone (FSH)

Equivalents:

Normal Values

Adult Male

<22 U/L

Adult Female

nonmidcycle: <20 U/L; midcycle surge: <40 U/L; post menopausal: 40-160 U/L

Pediatric

male: <22 U/L;

female: nonmidcycle: <20 U/L; midcycle surge: <40 U/L; post menopausal: 40-160 U/L

Blood A-G

Free Thyroxine Index (FT4I, T7)

Equivalents: T7 Thyroxine Index, Free (FT4I, T7)

Normal Values

Adult Male, Adult Female, Pediatric

1.1-4.4 (units are arbitrary)

Fructosamine

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Non diabetics: 1.5-2.7 mmol/L; diabetics: >2.0-5.0 mmol/L

Gamma Glutamyl Transpeptidase (GGT)

Equivalents:

Normal Values

Adult Male,

9-50 U/L

Adult Female

8-40 U/L

Pediatric

premature: 56-233 U/L; 0-3wk: 0-130 U/L; 3wk-3mo: 4-120 U/L; >3mo male: 5-65 U/L; >3mo female: 0-23 U/L

Gastrin

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

fasting: <100 pg/mL

Glucose (Fasting)

Equivalents: Fasting Blood Sugar (FBS), Blood Sugar (Fasting)

Normal Values

Adult Male,

fasting: 70-105 mg/dL

Pediatric

child: 60-100 mg/dL; newborn: 30-80 mg/dL

Glucose, Random

Equivalents: Random Glucose

Normal Values

Adult Male, Adult Female, Pediatric

Dependent on time and content of last meal. <200 mg/dL (SI: <2.8 mmol/L)

Glucose Tolerance Test (GTT)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Fasting 70-105

1 hr <184

2 hr <138

3 hr <105

Blood A-G

Glucose-6-Phosphate Dehydrogenase (G6PD)

Equivalentents: Glucose-6-Phosphate Dehydrogenase (G6PD) - HEME

Normal Values

Adult Male, Adult Female

5.0-9.7 U/g Hgb

Pediatric

0-1 month: 5.0-18.3 U/g Hgb; 1+ month: 5.0-9.7 U/g Hgb

Growth Hormone (GH)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

2.0-6.0 ng/mL

Blood A-G

Blood A-G

Blood A-G

Blood A-G

Blood A-G

Blood H-Z

H. pylori Antibody

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative

Hepatitis Panel: HBs, HBcAg, HA, antiHBs, antiHA, antiHBc

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Nonreactive

Heterophil Antibody

Equivalentents: Mono-Spot Test, Heterophil Antibody

Normal Values

Adult Male, Adult Female, Pediatric

Negative

HIV Antibody

Equivalentents: HIV Antibody - IMMUNO

Normal Values

Adult Male, Adult Female, Pediatric

Nonreactive

HIV Western Blot

Equivalentents: HIV Western Blot-IMMUNO

Normal Values

Adult Male, Adult Female, Pediatric

Negative

Homocysteine (little alpha)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

<12 mol/L

Human Chorionic Gonadotropin, Beta Subunit (HCG, BHCG)

Equivalentents:

Normal Values

Adult Male

<5 mIU/mL

Adult Female

nonpregnant: <5 mIU/mL; pregnant: approx gestation age: 0-2 wks: 0-500 mIU/mL; 2-3 wks: 100-1000 mIU/mL; 3-4 wks: 500-6000 mIU/mL; 1-3 mo: 5000-200,000 mIU/mL; 2nd & 3rd trimester: 5000-50,000 mIU/mL

Pediatric

Male and nonpregnant female: <5 mIU/mL

Pregnant female: approx gestation age: 0-2 wks: 0-500 mIU/mL; 2-3 wks: 100-1000 mIU/mL; 3-4 wks: 500-6000 mIU/mL; 1-3 mo: 5000-200,000 mIU/mL; 2nd & 3rd trimester: 5000-50,000 mIU/mL

Blood H-Z

Immunoglobulins: IgA, IgD, IgE, IgG, IgM

Equivalents:

Normal Values

Adult Male, Adult Female

IgG: 650-1600 mg/dL, IgA: 40-350 mg/dL, IgD: 0-8 mg/dL IgE: 0-180 U/mL IgM: 50-300 mg/dL

Pediatric

IgA: 1 mo: 1.3-53 mg/dL, 6 mo: 8.1-68 mg/dL, 12 mo: 15-90 mg/dL, 48 mo: 18-150 mg/dL, 48+ mo: 40-350 mg/dL;
IgG: 1 mo: 251-906 mg/dL, 6 mo: 215-704 mg/dL, 12 mo: 290-1070 mg/dL, 48 mo: 340-1200 mg/dL, 48+ mo: 650-1600 mg/dL; IgM: 1 mo: 20-87 mg/dL, 6 mo: 35-102 mg/dL, 12 mo: 40-150 mg/dL, 48+ mo: 50-300 mg/dL; IgD: 0-8 mg/dL; IgE: 0-180 U/mL

Inferior petrosal sinus ACTH sampling

Equivalents: Inferior petrosal sinus ACTH sampling - Other

Normal Values

Adult Male, Adult Female, Pediatric

Negative

Insulin Antibody

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

<3% binding of labeled beef and pork insulin by patient's serum

Insulin Assay

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

fasting: 5-25 mU/L

Iron, Fe

Equivalents:

Normal Values

Adult Male, Adult Female

Iron, total: 50-170 ug/dL, iron binding capacity total: 245-450 ug/100 mL, percent saturation: 20-55%

Pediatric

Iron, total: 0 days to 6 mo: 40-100 ug/dL; 6 mo to 16 yrs: 50-120 ug/dL

Iron-Binding Capacity (TIBC)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

iron binding capacity total: 245-450 ug/dL

Blood H-Z

Iron Saturation

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

20-55%

Ketone (Acetone)

Equivalents: Acetone (Ketone)

Normal Values

Adult Male, Adult Female, Pediatric

negative

Lactic acid

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

0.5-2.2 mmol/L (mEq/L)

Lactic Dehydrogenase (LDH)

Equivalents:

Normal Values

Adult Male, Adult Female

90-200 units/L

Pediatric

Birth to 30 days: 228-665 units/L; 30 days to 5 yrs: 150-350 units/L; 5-16 yrs: 130-300 units/L

Lead, Pb (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female

<40ug/dL (in unexposed adults)

Pediatric

<10 ug/dl (SI: <48 mcmol/L)

Lipase

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

4-24 U/dL

Adult Female

4-24 U/dL

Pediatric

4-24 U/dL

Blood H-Z

Lipids, Cholesterol (HDL, LDL, VLDL, Triglycerides and Total)

Equivalents: Cholesterol, Lipids (HDL, LDL, VLDL, Triglycerides and Total)

Normal Values

Adult Male, Adult Female, Pediatric

Cholesterol: <200 mg/dL; LDL: 60-180 mg/dL; HDL:30-80 mg/dL; VLDL: Trig: 40-150 mg/dL

Lipoprotein Electrophoresis (LEP) or Profile

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Plasma appearance: clear; chylomicrons: 0; Beta or LDL: 28-53%; Pre-beta: 3-32%; Alpha or HDL: 24-40%

Lithium, Li (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Therapeutic: 0.5-1.5 mmol/L (mEq/L); normal: negative

Luteinizing Hormone (LH)

Equivalents:

Normal Values

Adult Male

2.0-18.0 mIU/mL

Adult Female

follicular: 0.0-30.0 mIU/mL, ovulation peak: 17.5-49.0 mIU/mL, luteal: 0.6-10.8 mIU/mL postmenopausal: >30.0-72.6 mIU/mL;

Pediatric

male: 2-18 mIU/mL; female: follicular: 0.0-30.0 mIU/mL, ovulation peak: 17.5-49.0 mIU/mL, luteal: 0.6-10.8 mIU/mL

Lysozyme

Equivalents: Muramidase (Blood)

Normal Values

Adult Male, Adult Female, Pediatric

4.0-15.6 ug/mL (0.28-1.10 umol/L)

Magnesium, Mg (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female

1.6-3.0 mg/dL

Pediatric

1.3-2.0mg/dL (SI: 0.65-1.0 mmol/L)

Blood H-Z

Mono-Spot Test

Equivalents: Heterophil Antibody-IMMUNO, Heterophil Antibody

Normal Values

Adult Male, Adult Female, Pediatric

Negative

Muramidase (Blood)

Equivalents: Lysozyme

Normal Values

Adult Male, Adult Female, Pediatric

4.0-15.6 ug/mL (0.28-1.10 umol/L)

Osmolality

Equivalents:

Normal Values

Adult Male, Adult Female

275-295 mOsm/kg H₂O

Pediatric

newborn: as low as 255 mOsm/kg water; children: 285-295 mOsm/kg (mmol/kg)

Osteocalcin (Bone GLA protein)

Equivalents:

Normal Values

Adult Male

3.0-13.0 ng/mL

Adult Female

premenopausal: 0.4-8.0 ng/mL, postmenopausal: 3.0-12.0 ng/mL

Pediatric

male: 3.0-13.0 ng/mL; female: 0.4-8.0 ng/mL

Parathyroid Hormone (PTH) Intact

Equivalents:

Normal Values

Adult Male, Adult Female

10-50 pg/mL (SI: 1.1-5.3 pmol/L)

Pediatric

<10-65 pg/ml

Phenylalanine

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

<4 mg/dL (SI: <242 umol/L)

Blood H-Z

Phosphatase, Acid

Equivalents: Acid Phosphatase

Normal Values

Adult Male

0.5-11.0 U/L

Adult Female

0.2-9.5 U/L

Pediatric

Newborn: 7.4-19.4 U/L, 2-13yr: 6.4-15.2 U/L; 13+ yr: male: 0.5-11.0 U/L, female: 0.2-9.5 U/L

Phosphatase, Alkaline

Equivalents: Alkaline Phosphatase, Bone Alkaline Phosphatase

Normal Values

Adult Male, Adult Female

0-130 units/L

Pediatric

0-30 days of age: 20-225 units/L, 30 days to 10 yrs: 50-260 units/L, 10-15 yrs: 50-295 units/L

Phosphorus, P (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female

2.5-4.9 mg/dL

Pediatric

0-1 yr: 2.5-4.9 mg/dL; 1-16 yrs: 4.5-5.5 mg/dL

Postprandial Blood Sugar

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

<140 mg/dL (SI: <7.8 mmol/L)

Potassium, K (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female

3.8-5.1 mmol/L (mEq/L)

Pediatric

<10 days: 4.0-6.0 mEq/L (SI: 4.0-6.0 mmol/L); >10 days: 3.6-5.1 mEq/L (SI: 3.6-5.1 mmol/L)

Progesterone

Equivalents:

Normal Values

Adult Male, Pediatric

0.0-0.3 ng/mL

Adult Female

follicular phase: 0.1-1.1 ng/mL, luteal phase: 0.5-26.0 ng/mL, postmenopausal: 0.0-0.4 ng/mL, pregnancy (1st trimester): 15.0-50.0 ng/mL, (3rd trimester): 45.0-280.0 ng/mL

Blood H-Z

Prolactin

Equivalents:

Normal Values

Adult Male, Adult Female

3-16 ng/mL

Pediatric

male: 3-16 ng/mL; female: 0-17 ng/mL

Prostatic Specific Antigen (PSA)

Equivalents:

Normal Values

Adult Male

<60 yrs: <4 ng/mL; 60-69 yrs: 4.5 ng/mL; 70+ yrs: 6.5 ng/mL

Adult Female

<4 ng/mL

Pediatric

newborn: 10.4-16.4 U/mL; child: 8.6-12.6 U/mL

Protein, Albumin

Equivalents:

Normal Values

Adult Male, Adult Female

3.5-5.5 g/dL

Pediatric

0-1 yr: 2.9-5.5 g/dL (SI: 29-55 g/L), >1yr: 3.5-4.8 g/dL (SI: 35-50 g/L)

Protein, Globulin

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

1.5-4.5 g/dL

Protein, Total

Equivalents: Total Protein

Normal Values

Adult Male, Adult Female, Pediatric

6.0-8.0 g/dL

Random Glucose

Equivalents: Glucose, Random

Normal Values

Adult Male, Adult Female, Pediatric

Dependent on time and content of last meal. <200 mg/dL (SI: <2.8 mmol/L)

Blood H-Z

Renin

Equivalents: Renal Vein Renin

Normal Values

Adult Male, Adult Female, Pediatric

upright/normal sodium diet: 1-6 ng/mL/hour (SI: 0.77-4.6 nmol/L/hour)

Rheumatoid Factor

Equivalents: Rheumatoid Factor - immuno

Normal Values

Adult Male, Adult Female

<35 IU/mL

Pediatric

<20 IU/mL

RT3U (T3 uptake)

Equivalents: T3 uptake (RT3U)

Normal Values

Adult Male, Adult Female

24%-38.9% uptake

Pediatric

25-35% uptake

Serum Protein Electrophoresis (Qualitative) (SPEP)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Alpha1: 0.1-0.4 g/dL; alpha2: 0.5-0.9 g/dL; beta: 0.6-1.2 g/dL; gamma: 0.6-1.4 g/dL; total protein: 6.0-8.0 g/dL; albumin: 3.5-5.5 g/dL

SGOT (AST)

Equivalents: AST (SGOT)

Normal Values

Adult Male, Adult Female

0-41 units/L

Pediatric

0-1mo: 0-74 units/L; 1mo-adult: 0-41 units/L

SGPT (ALT)

Equivalents: ALT (SGPT)

Normal Values

Adult Male, Adult Female

0-45 units/L

Pediatric

0-1mo: 0-54 units/L; 1mo-adult: 0-45 units/L

Blood H-Z

Sodium, Na (Blood)

Equivalents:

Normal Values

Adult Male, Adult Female

138-146 mmol/L mEq/L

Pediatric

full term infant: 133-142 mEq/L; 1-16 yr: 135-145 mEq/L; adult: 138-146 mEq/L

T3 (T3 by RIA, Triiodothyronine)

Equivalents: Triiodothyronine (T3)

Normal Values

Adult Male, Adult Female, Pediatric

80-200 ng/dL (SI: 1.2-3.1 nmol/L).

T3 uptake (RT3U)

Equivalents: RT3U (T3 uptake)

Normal Values

Adult Male, Adult Female

24%-38.9% uptake

Pediatric

25-35% uptake

T4 (Thyroxine by RIA, TT4)

Equivalents: TT4 (Thyroxine by RIA, T4), Thyroxine by RIA (T4, TT4)

Normal Values

Adult Male, Adult Female

5-13 ug/dL

Pediatric

12-72 hr: 14.8-23.2 ug/dl; 3-10 days: 9.9-21.9 ug/dl; 11-45 days: 8.2-16.2 ug/dl; 46-90 days: 6.-14.0 ug/dl

T7

Equivalents: Thyroxine Index, Free (FT4I, T7), Free Thyroxine Index (FT4I, T7)

Normal Values

Adult Male, Adult Female, Pediatric

1.1-4.4

Testosterone

Equivalents:

Normal Values

Adult Male

270-1070 ng/dL

Adult Female

6-86 ng/dL

Pediatric

prepubertal children: 10-20 ng/dl; postpubertal: male: 270-1070 ng/dL, female: 6-86 ng/dL

Blood H-Z

Therapeutic Drug Levels

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

depends on drug level requested

Therapeutic Screen for Drugs

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

depends on drug level requested

Thyroid Hormone-Binding Ratio (TBHR)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

0.90-1.10

Thyroid-Stimulating-Hormone (TSH)

Equivalents:

Normal Values

Adult Male, Adult Female

0.5-3.6 mU/mL

Pediatric

0.7-6.4 mU/mL

Thyroxine by RIA (T4, TT4)

Equivalents: T4 (Thyroxine), TT4 (Thyroxine by RIA, T4)

Normal Values

Adult Male, Adult Female

5-13 ug/d/L

Pediatric

1-3 days: 11.0-21.5 ug/dl; 1-4 wk: 8.2-16.6 ug/dl; 1-12 mo: 7.2-15.6 ug/dl; 1-5 yr: 7.2-15.0 ug/dl; 6-10 yr: 6.3-13.3 ug/dl; 11-15 yr: 5.6-11.7 ug/dl

Thyroxine Index, Free (FT4I, T7)

Equivalents: T7, Free Thyroxine Index (FT4I, T7)

Normal Values

Adult Male, Adult Female, Pediatric

1.1-4.4

Adult Female

1.1-4.4

Pediatric

1.1-4.4

Blood H-Z

Thyroxine-Binding-Globulin Binding Capacity

Equivalents:

Normal Values

Adult Male, Adult Female

1.2-2.5 mg/dL

Pediatric

0-1wk: 3-8 mg/dL; 1-12mo: 3-6 mg/dL; 12+ mo: 1.2-2.5 mg/dL

Total Protein

Equivalents: Protein, Total

Normal Values

Adult Male, Adult Female, Pediatric

6.0-8.0 g/dL

Toxic Screen for Metals

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

none detected

Transferrin (blood)

Equivalents:

Normal Values

Adult Male, Adult Female

193-378 mg/dL

Pediatric

newborn: 130-275 mg/dL; child: 193-378 mg/dL

Triglycerides

Equivalents:

Normal Values

Adult Male, Adult Female

0-29yrs: 10-140 mg/dL; 30-39yrs: 10-150 mg/dL; 40-49yrs: 10-160 mg/dL; 50+: 10-190 mg/dL

Pediatric

10-140 mg/dL

Triiodothyronine (T3)

Equivalents: T3 (T3 by RIA, triiodothyronine)

Normal Values

Adult Male, Adult Female, Pediatric

80-200 ng/dL

Blood H-Z

Troponin

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
0.0-0.8 ng/mL

TT4 (Thyroxine by RIA, T4)

Equivalents: T4 (Thyroxine), Thyroxine by RIA (T4, TT4)

Normal Values

Adult Male, Adult Female, Pediatric
5-13 ug/dL

Urea Nitrogen (BUN)

Equivalents: BUN

Normal Values

Adult Male, Adult Female
10-20 mg/dL
Pediatric
7-22 mg/dl (SI: 2.5-7.9 mmol/L)

Uric Acid

Equivalents:

Normal Values

Adult Male, Adult Female
2.0-7.0 mg/dL
Pediatric
0-2 yr: 2.4-6.4 mg/dl (SI: 0.14-0.38 mmol/L); 2-12 yr: 2.4-5.9 mg/dl (SI: 0.14-0.35 mmol/L); 12-14 yr: 2.4-6.4 mg/dl (SI: 0.14-0.38 mmol/L)

Vasopressin Level (Serum ADH Level)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
0.0-4.7 pg/mL

VDRL, Blood

Equivalents: VDRL, Blood

Normal Values

Adult Male, Adult Female, Pediatric
negative, nonreactive

Vitamin B12 and Folic Acid

Equivalents:

Normal Values

Adult Male, Adult Female
B12: 180-1000; Serum folate: >3.0 ng/mL; RBC folate: >140 ng/mL
Pediatric
B12: 130-785 pg/ml (SI: 96-363 mcmol/L); Serum folate: >3 ng/mL; RBC folate: >140 ng/mL

Blood H-Z

Vitamin D, 25-Hydroxy

Equivalents:

Normal Values

Adult Male, Adult Female

10-60 ng/mL

Pediatric

9-52 ng/mL

Vitamin D, 1,25-Hydroxy

Equivalents:

Normal Values

Adult Male, Adult Female

15-65 pg/mL

Pediatric

25-45 pg/ml (SI: 60-108 pmol/L)

Cardiovascular

Ankle-brachial Indices (ABI)

Equivalents:

Normal Values

Adult Male

Adult Female

Pediatric

Aorto-viseral Duplex Exam

Equivalents:

Normal Values

Adult Male

Adult Female

Pediatric

Cardiac Catheterization

Equivalents: Coronary Angiogram

Normal Values

Adult Male, Adult Female, Pediatric

cardiac anatomy: normal; cardiac chamber sizes: normal; no vascular regurgitation or stenosis; Left ventricular ejection fraction: 0.60; Left ventricular pressure: 120/4 mmHg; Right ventricular pressure: 28/1 mmHg; Left atrial pressure: 10/4 mmHg

Central Venous Pressure

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

CVP: 0-6 mmHg

Coronary Angiogram

Equivalents: Cardiac Catheterization

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Doppler Studies

Equivalents: Venous Doppler Studies

Normal Values

Adult Male, Adult Female, Pediatric

Normal position, size, and movement of heart valves and chamber walls. Appropriate blood flow and hemodynamic patterns.

Cardiovascular

Echocardiogram (Echo)

Equivalents: Heart (cardiac ECHO)

Normal Values

Adult Male, Adult Female, Pediatric

Normal position, size, and movement of heart valves and chamber walls.

EKG with Rhythm Strip

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal sinus rhythm, consisting of a P wave, QRS complex and T wave (a V wave may also be observed). Normal PR rate and rhythm

Electrophysiology Study

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal conduction intervals, refractory periods and recovery times; no evidence of arrhythmias

Event Monitor

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No arrhythmias

Holter Arrhythmia Monitor

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no arrhythmias

Rhythm Strip

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal sinus rhythm

Swan-Ganz (Pulmonary artery balloon catheter)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal pulmonary artery and pulmonary wedge pressure, normal cardiac output and mixed venous PO₂ and O₂ saturation

Cardiovascular

Toe Pliethsmography

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Test is normal

Treadmill Stress Test, Cardiac

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no complaint of chest pains and no electrocardiographic abnormality

Walking Treadmill Stress Test for PVD

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no complaints of leg pain and no electrocardiographic abnormality

Cerebrospinal

Albumin (CSF)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
11-48 mg/dL

Cell count (CSF)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
0-10 cells/CUmm, all lymphocytes and monocytes; 0 red blood cells

Chloride (CSF)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
118-132 mEq/L

Counter-immunoelectrophoresis (CSF)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Cryptococcal antigen (CSF)

Equivalents: Cryptococcal Antigen (CSF) - immuno, Cryptococcal Antigen (Serum)

Normal Values

Adult Male, Adult Female, Pediatric
normal/negative

Cytology

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
depends on type of specimen

Glucose (CSF)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
56-84 mg/dL (70 % of blood glucose)

Cerebrospinal

IgG (CSF)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

1.8-5.4 mg/dL (5% to 12% of total CSF protein)

IgG/Alb, ratio (CSF)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

CSF IgG index: 0.3-0.85

Latex agglutination

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal/negative

Lumbar picture for CSF

Equivalents: Spinal Tap

Normal Values

Adult Male, Adult Female, Pediatric

Pressure: 70-180 mm of water; fluid is clear and colorless

Protein (CSF)

Equivalents:

Normal Values

Adult Male, Adult Female

15-45 mg/dl

Pediatric

neonates: 30-200 mg/dL; 1 mo-6 mo: 30-100 mg/dL; >6 mo: 12-60 mg/dL

Protein electrophoresis (CSF)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

pathologist will interpret results which will be reported via the computer

Spinal Tap

Equivalents: Lumbar picture for CSF

Normal Values

Adult Male, Adult Female, Pediatric

Pressure: 70-180 mm of water; fluid is clear and colorless

VDRL (CSF)

Equivalents: VDRL, Spinal

Normal Values

Adult Male, Adult Female, Pediatric

nonreactive

CT

Abdomen (CT scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No evidence of pathology. Normal size, location, and appearance of structures

Arm (CT scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No evidence of pathology. Normal size, location, and appearance of structures

Chest (CT scan - High resolution)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Chest (CT scan - spiral)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Chest (CT scan- standard)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No evidence of pathology. Normal size, location, and appearance of structures

Head (CT scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no evidence of subdural hematoma, subarachnoid hemorrhage, epidural bleed, depressed skull fracture, tumor or other pathology

Leg (CT scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No evidence of pathology. Normal size, location, and appearance of structures

CT

Neck (CT scan)

Equivalents: *Vertabrae-Cervical*

Normal Values

Adult Male, Adult Female, Pediatric

No evidence of pathology. Normal size, location, and appearance of structures

Orbital {face} (CT scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No evidence of pathology. Normal size, location, and appearance of structures

Pelvis (CT scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No evidence of pathology. Normal size, location, and appearance of structures

Temporal Bone (CT scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No evidence of opacification of the air cells in the middle ear or mastoid. Ossicular chain is in tact with normal inner ear morphology.

Vertabrae-Cervical

Equivalents: *Neck (CT scan)*

Normal Values

Adult Male, Adult Female, Pediatric

No evidence of pathology. Normal size, location, and appearance of structures

Vertebrae - Lumbar (CT scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no evidence of lumbar disease or other pathology

Vertebrae - Thoracic (CT scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no evidence of metastatic nodules or other pathology

Electrodiagnosis

Brainstem Evoked Response

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
normal waveform latencies

Cystometrography and Flow Studies

Equivalents: Urodynamic Studies, Voiding cystourethrogram, Cystogram, Retrograde

Cystourethrogram

Normal Values

Adult Male, Adult Female, Pediatric
within normal limits

Electroencephalogram (EEG)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Brain waves have normal symmetric patterns, amplitudes, frequencies, and other characteristics: alpha 8-11 Hz (Hertz = cycles per second)

Electromyogram (EMG)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal nerve conduction and muscle action potentials at rest and during minimum and maximum voluntary muscle contractions. Normal conduction velocity rates.

Evoked Potentials

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
normal waveform latencies

Nerve Conduction Velocity (NCV)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
normal

Electrodiagnosis

Non-Stress Test

Equivalents: Non-Stress Test- other

Normal Values

Adult Male

not applicable

Adult Female

spontaneous fetal movement noted three times in 15 minutes associated with rise in fetal heart rate

Pediatric

male: not applicable; pregnant female: spontaneous fetal movement noted three times in 15 minutes associated with rise in fetal heart rate

Oxytocin Challenge Test

Equivalents:

Normal Values

Adult Male

not applicable

Adult Female

negative; no late decelerations of FHR occur with minimum of 3 uterine contractions lasting 40-60 seconds in 10 minute period (a late deceleration is a gradual drop in FHR after the onset of the uterine contraction with its lowest point after the peak of the contraction and return to baseline FHR after the end of the contraction)

Pediatric

male: not applicable; female: negative; no late decelerations of FHR occur with minimum of 3 uterine contractions lasting 40-60 seconds in 10 minute period (a late deceleration is a gradual drop in FHR after the onset of the uterine contraction with its lowest point after the peak of the contraction and return to baseline FHR after the end of the contraction)

Urodynamic Studies

Equivalents: Voiding cystourethrogram, Cystogram Retrograde Cystourethrogram, Cystometrography and Flow Studies

Normal Values

Adult Male, Adult Female, Pediatric

within normal limits

Visual Evoked Responses

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal waveform latencies

Gastrointestinal

Colonoscopy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal large intestine mucosa from anus to cecum

D-Xylose Absorption

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

mean 5 hr excretion for urine: 5.3-7.7 g/5hr; blood: 20-52 mg

Duodenal Drainage

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Endoscopic Retrograde Cholangio Pancreatogram (ERCP)

Equivalents: Endoscopic Retrograde Cholangio Pancreatogram (ERCP)

Normal Values

Adult Male, Adult Female, Pediatric

Patent normal pancreatic ducts, hepatic ducts, common bile ducts, duodenal papilla, ampulla of Vater, and gallbladder

Esophageal Manometry

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal esophageal pressure readings; normal lower esophageal sphincter pressure

Esophagogastroduodenoscopy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no evidence of hemorrhage, hernia, esophatitis, neoplastic tissue, gastric ulcers or other pathology; esophagus, stomach and upper duodenum normal in appearance

Gastric Acid Analysis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal basal acid output: 1.4-4.0 mEq/L; output volume: less than 100 mL/hr; normal peak acid output: 12-14 mEq/L with histamine or histalog

Gastrointestinal

Pancreatic Function Test

Equivalents: Secretin Test

Normal Values

Adult Male, Adult Female, Pediatric
as interpreted by gastroenterology division

pH Probe

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no evidence of gastroesophageal reflux in 24 hours.

Secretin Test

Equivalents: Pancreatic Function Test

Normal Values

Adult Male, Adult Female, Pediatric
as interpreted by gastroenterology division

Sigmoidoscopy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Normal appearing anal canal, rectum, and sigmoid colon mucosa

Genetics

Buccal smear

Equivalentents:

Normal Values

Adult Male

0-4%

Adult Female

>4%

Pediatric

male: 0-4%; female: >4%

CF Genotype

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Chromosome Studies, Amniotic Fluid (Chromosome Karyotyping)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no chromosomal abnormalities found

Chromosome Studies, Blood (Cytogenetic Studies, Karyotyping)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no chromosomal abnormalities found

Chromosome Studies, Bone Marrow (Philadelphia Chromosome)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no chromosomal abnormalities found

Chromosome Studies, Tissue (karyotyping)

Equivalentents:

Normal Values

Adult Male

44 autosomes 1X, 1Y chromosome karyotype; 46, XY

Adult Female

44 autosomes 2X chromosomes karyotype; 46 XX

Pediatric

male: 44 autosomes 1X, 1Y chromosome karyotype; 46, XY;

female: 44 autosomes 2X chromosomes karyotype; 46 XX

Genetics

HFEG (C-Y282 mutation)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

HLA B27

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Hematologic

Bleeding Time

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

3-10 minutes

Clot Retraction

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Clot retraction starts in 1 hour, nearly complete in 4 hrs, and is complete with in 24 hrs; if clot retraction is normal and complete, approximately half the total of the blood volume is clot and the other half is serum

Clotting Time (glass, hematalogic)

Equivalentents: Clotting Time (glass, hematalogic)

Normal Values

Adult Male, Adult Female, Pediatric

8-15 minutes

Complete Blood Count with Differential (CBC)

Equivalentents:

Normal Values

Adult Male, Adult Female

WBC count: 4.5-11.0 K/CUMM; RBC count: 4.73-5.49 CUMM; Hemoglobin: 14.0-16.6 g/dL; Hemotocrit: 42.9-49.1%; MCH: 27-31 pg; MCHC: 33-37 g/dL; MCV: 76-100 uCUMM; RDW: 11.5-14.5%; platelet count: 189-287 K/uL; total lymphocytes: 34% WBC count; neutrophils, band: 3.0% WBC count; neutrophils, segmented: 56% WBC count; eosinophils: 2.7% WBC count; basophils: 1.5% WBC count; monocytes: 4.0% WBC count

Pediatric

1wk-4yrs: WBC count: 5-17 K/CUMM; RBC count: 4.7-4.6 CUMM; Hemoglobin: 11-12.5 g/dL; Hemotocrit: 35-52.5%; MCH: 25-36 pg; MCHC: 33-35 g/dL; MCV: 77-103 uCUMM; platelet count: 260-380 K/uL; total lymphocytes: 56-61 WBC count; neutrophils, band: 3.0-4.5% WBC count; neutrophils, segmented: 28-30% WBC count; eosinophils: 2.4-2.6% WBC count; basophils: 0.4-0.5% WBC count; monocytes: 4.3-5.0% WBC count. 4-15yrs: WBC count: 4.5-15 K/CUMM; RBC count: 4.5-4.8 CUMM; Hemoglobin: 12.5-13.4 g/dL; Hemotocrit: 35.5-39%; MCH: 25-28 pg; MCHC: 32-34g/dL; MCV: 77-82 uCUMM; platelet count: 280-400 K/uL; total lymphocytes: 38-59% WBC count; neutrophils, band: 3.0-3.1% WBC count; neutrophils, segmented: 30-50% WBC count; eosinophils: 2.4-2.6% WBC count; basophils: 0.5-0.6% WBC count; monocytes: 4.3-5.0% WBC count

Erythrocyte Enzymes

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Glucose-6-phosphate dehydrogenase: 8.6-18.6 U/g Hgb; Glutathione reductase: 9-13 U/g Hgb; pyruvate kinase: 15.0 + 2.0 U/g Hgb

Hematologic

Erythrocyte Sedimentation Rate (ESR)

Equivalents: Sedimentation Rate (Westergren, ESR)

Normal Values

Adult Male, Adult Female

<50yrs: 0-15 mm/hour; >50yrs: 0-20 mm/hour

Pediatric

children: 0-10 mm/hr

Factor II (prothrombin)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

83%-117% of normal

Factor IX (plasma thromboplastic co-factor)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

60-140% of normal

Factor V (accelerator, globulin)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

50%-150% of normal

Factor VII (proconvertin-Stuart)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

65-135% of normal

Factor VIII (antihemophilic globulin)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

50%-150% of normal

Factor X (Stuart factor)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

50%-150% of normal

Hematologic

Factor XI (plasma thromboplastic antecedent)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

65-135% of normal

Factor XII (Hageman factor)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

50%-150% of normal

Factor XIII screen

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

screen clot insoluble in 5m urea at 24 hrs

Fast Hemoglobin (glycosylated) (HbA1C)

Equivalentents: Hemoglobin A1c (HbA1C), Glycosylated Hemoglobin (HbA1C)

Normal Values

Adult Male, Adult Female

4.8%-7.8% of total hemoglobin

Pediatric

3.9-7.7% of total hemoglobin

Ferritin

Equivalentents:

Normal Values

Adult Male, Adult Female

20-300 ng/mL

Pediatric

newborn: 25-200 ng/ml (SI: 25-200 mcg/L); 1 mo: 200-600 ng/ml (SI: 200-600 mcg/L); 6 mo: 50-200 ng/ml (SI: 50-200 mcg/L) 6mo-15yrs: 7-142 ng/mL (SI: 7-142 mcg/L)

Fetal Hemoglobin

Equivalentents:

Normal Values

Adult Male, Adult Female

0-2% of total hemoglobin

Pediatric

6mo-adult: 0-2% of the total hemoglobin; 0-6mo: 0-75% of total hemoglobin

Hematologic

Fibrin Split Products (FDP)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

<10 ug/mL

Fibrinogen

Equivalents:

Normal Values

Adult Male, Adult Female

200-400 mg/dL

Pediatric

newborn: 1.67-3.99 g/L; child: 1.56-4.00 g/L

Glucose-6-Phosphate Dehydrogenase

Equivalents: Glucose-6-Phosphate Dehydrogenase (G6PD)

Normal Values

Adult Male, Adult Female

5.0-9.7 U/g Hgb

Pediatric

0-1mo: 5.0-19.3 U/g Hgb; 1mo-15yrs: 5.0-9.7 U/g Hgb

Glutathione Reductase

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

9-13 U/g Hgb

Glycosylated Hemoglobin (HbA1C)

Equivalents: Fast Hemoglobin (glycosylated) (HbA1C), Hemoglobin A1c (HbA1C)

Normal Values

Adult Male, Adult Female

4.8%-7.8% of total hemoglobin

Pediatric

3.9-7.7% of total hemoglobin

Haptoglobin

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

40-180 mg/dL

Adult Female

40-180 mg/dL

Pediatric

40-180 mg/dl

Hematologic

Hematocrit (finger stick) (HCT)

Equivalents:

Normal Values

Adult Male

40-54% of total Hgb

Adult Female

37%-47% of total Hgb

Pediatric

newborn: 50-62%; children: male: 40-54% of total Hgb; female: 37%-47% of total Hgb

Hemoglobin (Hb)

Equivalents:

Normal Values

Adult Male

14.0-18.0 g/dL

Adult Female

12.0-16.0 g/dL

Pediatric

newborns: 14-20 g/dL; children: male: 14.0-18.0 g/dL, female: 12.0-16.0 g/dL

Hemoglobin A1c (HbA1C)

Equivalents: Fast Hemoglobin (glycosylated) (HbA1C), Glycosylated Hemoglobin (HbA1C)

Normal Values

Adult Male, Adult Female

4.8%-7.8% of total hemoglobin

Pediatric

3.9-7.7% of total hemoglobin

Hemoglobin A2

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

2.5%-3.5%

Hemoglobin Electrophoresis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no abnormal forms or distribution of hemoglobins found

HLA-B27

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Hematologic

LE Preparation

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Leukocyte Alkaline Phosphatase

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
50-150 U

Lupus Anticoagulant

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no circulating anticoagulant identified

Met-Hemoglobin & Sulf-hemoglobin

Equivalents:

Normal Values

Adult Male, Adult Female
met-hemoglobin: 0-3% of total hemoglobin; sulf-hemoglobin: trace amts
Pediatric
methemoglobin: 1 mo-16 yr: 0.00-0.33 g/dL; sulf-hemoglobin: trace amts

NBT Dye Test

Equivalents: Quantitative Nitroblue Tertazolium Test

Normal Values

Adult Male, Adult Female, Pediatric
2%-8% segmented neutrophils reduce dye

Osmotic Fragility of Erythrocytes

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
hemolysis begins in salt solutions of 0.39-0.45%, hemolysis complete in salt solutions of 0.30-0.33%

Partial Thromboplastin Time (PTT)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
22-36 seconds

Hematologic

Peripheral Blood Smear

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric
normal/negative

Peroxide Hemolysis

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric
<20% hemolysis

Platelet Aggregation

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric
normal platelet aggregate form in less than 5 minutes

Platelets (Plt)

Equivalentents:

Normal Values

Adult Male
189-287 K/uL
Adult Female
212-328 K/uL
Pediatric
1wk-4yrs: 260-380 K/uL; 4-15 yrs: 280-400 K/uL

Prothrombin Time (PT)

Equivalentents:

Normal Values

Adult Male, Adult Female
11.1-14.3 seconds International Normalized Ratio (INR): 0.75-1.30
Pediatric
10.8-13.9 seconds International Normalized Ratio (INR): 0.75-1.30

Pyruvate Kinase

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric
6-19 umol NAD(H)²/min/g Hgb

Quantitative Nitroblue Tertazolium Test

Equivalentents: NBT Dye Test

Normal Values

Adult Male, Adult Female, Pediatric
2%-8% segmented neutrophils reduce dye

Hematologic

Reticulocyte Count

Equivalents:

Normal Values

Adult Male, Adult Female

0.5-1.5% total RBCs

Pediatric

infants: 2-5% total RBCs; children: 0.5-4% total RBCs

Sedimentation Rate (Westergren, ESR)

Equivalents: Erythrocyte Sedimentation Rate (ESR)

Normal Values

Adult Male

<50yrs: 0-15 mm/hour; >50yrs: 0-20 mm/hour

Adult Female

<50yrs: 0-20 mm/hour; >50yrs: 0-30 mm/hour

Pediatric

0-10 mm/hr

Sickle Cell Prep

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative, no hemoglobin S present

Thrombin Time

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

clot is formed within 10-15 seconds

Type and Crossmatch

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

patient dependent

Type and Screen

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

patient dependent

Whole-Blood Clot Lysis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Clot still intact after two hours

Immunology

Amebiasis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
absence of organism, negative

Anti-Acetylcholine Receptor Antibodies

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
<0.03 nmol/L; 1-20 nmol/L in 50 % of patients; 20-400 nmol/L in 50 % of patients

Anti-Cardiolipin Antibody

Equivalents: Anti-Cardiolipin Antibody

Normal Values

Adult Male, Adult Female, Pediatric
normal, negative

Anti-Glomerular Basement Membrane Antibody

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Anti-Smooth Muscle Antibody

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Antibody Screen

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative, no unusual antibodies

Anticentromere Antibody

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Antidouble-Stranded DNA

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
less than 10% binding

Immunology

Antineutrophil Cytoplasmic Antibody (ANCA)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Antinuclear Antibody (ANA,FANA)

Equivalents: SS-B (La), SS-A (Ro)

Normal Values

Adult Male, Adult Female, Pediatric
negative

Antistreptolysin O (ASO)

Equivalents:

Normal Values

Adult Male, Adult Female
<200 IU/mL
Pediatric
0-5yrs: <100 IU/mL; 5-16yrs: <200 IU/mL

Antistriated Muscle Antibodies

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Titer <1:60

Ascariasis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
absence of Ascaris antibodies, adult worms, larvae or eggs in the body; negative

Brucellosis Agglutinins

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

C-Reactive Protein (CRP)

Equivalents: C-Reactive Protein (CRP)

Normal Values

Adult Male, Adult Female, Pediatric
<.8 ug/dL

Immunology

CD4 (T Helpers)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

32-61% of lymphocytes

CD8 cell count (T suppressors)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

18-42% of lymphocytes

C3 Complement

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

85-155 mg/dL

C4 Complement

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

16-47 mg/dL

CA 19-9

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

<37kU/mL

CA-125

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

<35 units/mL

Candida Antibody

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Candidiasis (skin test)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

induration of 10mm or greater-positive for candidiasis, induration <10mm-negative for candidiasis

Immunology

CEA (Carcinoembryonic Antigen)

Equivalents: Carcinoembryonic Antigen (CEA)

Normal Values

Adult Male, Adult Female

nonsmoker: 0-2.5 ng/mL, smoker: 0-5 ng/mL

Pediatric

0-3 ng/mL

Coccidioides Immunodiffusion Test

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

nonreactive or an area of erythema and induration that does not exceed 5 mm

Cold Agglutinins

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

titer <1:32

Complement, Total Hemolytic

Equivalents: Total Hemolytic Complement

Normal Values

Adult Male, Adult Female, Pediatric

488-1150 units

Coombs Test

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal, negative

Cryoglobulins

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Cryptococcal Antigen (CSF)

Equivalents: Cryptococcal Antigen (Serum), Cryptococcal Antigen (CSF)

Normal Values

Adult Male, Adult Female, Pediatric

normal, negative

Immunology

Cytomegalovirus (CMV) Antibody titer

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

IgM: negative; IgG: <15 AU/mL or less than a fourfold increase

Diphtheria Toxoid (Schick Test)

Equivalents: Schick Test (Diphtheria Toxoid)

Normal Values

Adult Male, Adult Female, Pediatric

nonreactive

Echinococcosis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Indirect hemagglutination: 1:2-1:64

Epstein Barr Virus titer

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

uninfected: IgG anti-VCA \geq 1:10, IfM anti-VCA \leq 1:10, Anti EBNA \leq 1:5; infected: IgG anti-VCA <1:10, IfM anti-VCA <1:10, Anti EBNA <1:5

Febrile Agglutinations

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Less than a fourfold increase in titer in paired sera

Filariasis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

FTA-ABS (Fluorescent Treponemal Antibody-Absorption)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

nonreactive

Immunology

Fungal Antibody titers

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative for fungal antibodies; compliment-fixation (CF) titer: <1:8

Heterophil Antibody

Equivalents: Mono-Spot Test, Heterophil Antibody

Normal Values

Adult Male, Adult Female, Pediatric

negative

Histocompatibility Antigen

Equivalents: Tissue Antibody/Autoantibody Studies

Normal Values

Adult Male, Adult Female, Pediatric

depends on antigen tested for

Histoplasmosis Immunodiffusion

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no induration, erythema <5 mm in diameter

HIV Antibody

Equivalents: HIV Antibody

Normal Values

Adult Male, Adult Female, Pediatric

nonreactive

HIV Western Blot

Equivalents: HIV Western Blot

Normal Values

Adult Male, Adult Female, Pediatric

negative

Immunolectrophoresis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal Immunoglobulin (G,A,M) Pattern, IgG: 700-1800 mg/dL; IgA: 70-440 mg/dL; IgM: 60-290 mg/dL

Infectious Mononucleosis titer

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Immunology

Lyme Titer (Elisa)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

ELISA <1:8

Lyme Western Blot

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

<4 bands

Lymphocyte Typing by Monoclonal Antibodies

Equivalents:

Normal Values

Adult Male

Total WBC Count 4,800 - 10,000/mm³

Total Lymphocyte Count 900 - 3,700/mm³

T lymphocytes

CD3 or T3 (total T cells) 66%-88% (612-3,063/mm³)

CD4 or T4 (inducer T cells) 34-62% (315-1899/mm³)

CD8 or T8 (suppressor/cytotoxic T cells) 15-42% (138-1179/mm³)

CD4:CD8 or T4:T8 0.8-3.3

T3 + I3 (activated T cells) 1-10% (9-370/mm³)

B-lymphocytes

CD19 or B4 2-12% (26-292/mm³)

Natural killer cells

CD16 or NKH-1 1-19% (1-480/mm³)

Adult Female

Total WBC Count 4,800 - 10,000/mm³

Total Lymphocyte Count 900 - 3,700/mm³

T lymphocytes

CD3 or T3 (total T cells) 66%-88% (612-3,063/mm³)

CD4 or T4 (inducer T cells) 34-62% (315-1899/mm³)

CD8 or T8 (suppressor/cytotoxic T cells) 15-42% (138-1179/mm³)

CD4:CD8 or T4:T8 0.8-3.3

T3 + I3 (activated T cells) 1-10% (9-370/mm³)

B-lymphocytes

CD19 or B4 2-12% (26-292/mm³)

Natural killer cells

CD16 or NKH-1 1-19% (1-480/mm³)

Pediatric

Total WBC Count 4,800 - 10,000/mm³

Total Lymphocyte Count 900 - 3,700/mm³

T lymphocytes

CD3 or T3 (total T cells) 66%-88% (612-3,063/mm³)

CD4 or T4 (inducer T cells) 34-62% (315-1899/mm³)

CD8 or T8 (suppressor/cytotoxic T cells) 15-42% (138-1179/mm³)

CD4:CD8 or T4:T8 0.8-3.3

T3 + I3 (activated T cells) 1-10% (9-370/mm³)

B-lymphocytes

CD19 or B4 2-12% (26-292/mm³)

Natural killer cells

CD16 or NKH-1 1-19% (1-480/mm³)

Immunology

Malaria Smear

Equivalents: Malaria Smear - micro

Normal Values

Adult Male, Adult Female, Pediatric
negative, no malarial parasites observed

MHAT (Micro-hemagglutination Treponema)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
nonreactive

Migration Inhibition

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
unremarkable

Mumps Skin Test

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
positive: erythema and lesion >10mm in diameter; negative: erythema and lesion <10mm in diameter

Mycoplasma Titer

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
titer ≤ 1:30

Nasal Smear and/or Culture for Adenovirus

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no growth

Nasal Smear for RSV

Equivalents: Nasal washing for RSV

Normal Values

Adult Male, Adult Female, Pediatric
RSV not detected

Immunology

PPD intermediate (skin test for tuberculosis)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no induration

Rapid Plasma Reagin Test (RPR)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

RH Typing

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Rh negative or positive

Rheumatoid Ractor

Equivalents: Rheumatoid Factor

Normal Values

Adult Male, Adult Female, Pediatric
<35 U/mL

Rocky Mountain Spotted Fever Titer

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
non reactive

Rubella titer

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
prevaccination: negative; postvaccination: positive

Schick Test (Diphtheria Toxoid)

Equivalents: Diphtheria Toxoid (Schick Test)

Normal Values

Adult Male, Adult Female, Pediatric
nonreactive

Immunology

Serology

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
nonreactive

Serum antibody titers

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Serum Complement titers

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
25-70 U/mL

Skeletal Muscle Antibody

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

SKSD Skin Test (Streptokinase-Streptodornase)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Induration of 10mm or more-positive, <10mm-negative

Smooth Muscle Antibody

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
<1:20

SS-A (Ro)

Equivalents: SS-B (La), Antinuclear Antibody (ANA,FANA)

Normal Values

Adult Male, Adult Female, Pediatric
negative

Immunology

SS-B (La)

Equivalents: Antinuclear Antibody (ANA, FANA), SS-A (Ro)

Normal Values

Adult Male, Adult Female, Pediatric
negative

Tissue Antibody/Autoantibody Studies

Equivalents: Histocompatibility Antigen

Normal Values

Adult Male, Adult Female, Pediatric
depends on antigen tested for

Total Hemolytic Complement

Equivalents: Complement, Total Hemolytic

Normal Values

Adult Male, Adult Female, Pediatric
488-1150 U

Toxoplasmosis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

TRAb

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

TSHR (stim) Ab

Equivalents: TSIG

Normal Values

Adult Male, Adult Female, Pediatric
negative

TSIG

Equivalents: TSHR (stim) Ab

Normal Values

Adult Male, Adult Female, Pediatric
negative

Immunology

VDRL, Blood

Equivalents: VDRL, Blood

Normal Values

Adult Male, Adult Female, Pediatric
nonreactive

VDRL, Spinal

Equivalents: VDRL (CSF)

Normal Values

Adult Male, Adult Female, Pediatric
nonreactive

Viral Antibody titers

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Viral Load

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
0 copies/mL; goal of therapy: <500 copies/mL

Microbiology

Acanthamoeba Stain

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no acanthamoeba seen

Acid Fast Stain (AFB) and Cultures

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no acid fast bacilli observed

Antibiotic sensitivities and susceptibilities

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

standard values are determined by antibiotic manufacturer. Patient results are reported to physician as either "sensitive" or "resistant." Results are determined as a function of diffusion rate of antibiotic into culture medium. Each lab generally determines the group of antibiotics to be tested against gram.

Arthropod ID

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no arthropod identification

Blood cultures (bacterial)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no growth

Blood cultures (viral)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no cytopathic effect (CPE) is expected on cell culture

Blood cultures (fungal)

Equivalents:

Normal Values

Adult Male
no growth

Microbiology

Bronchial aspirate culture

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Tracheal aspirate and bronchoscopy specimens are often contaminated with normal oral flora. Transtracheal aspiration- no growth normally.

Catheter tip culture (semi-quantitative)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no growth

Chlamydia Culture

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative for chlamydia trachomatis antigens

Chlamydia Immunoassay PCR

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Clostridia difficile toxin assay (CDT)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Cryptococcal Antigen (Serum)

Equivalents: Cryptococcal Antigen (CSF) - immuno, Cryptococcal Antigen (CSF)

Normal Values

Adult Male, Adult Female, Pediatric

negative

CSF (cerebrospinal) cultures (bacterial and viral)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no microorganisms isolated

Microbiology

CSF (cerebrospinal) cultures (fungus & AFB)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no fungi isolated

Cultures of lesions or other bodily fluids (bacteria, fungi)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no fungi isolated, no bacterial growth

Elisa for viruses

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

dependent on virus

G.C. culture (gonorrhea culture)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no Neisseria gonorrhoeae isolated

Gram stain

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

depends on site of specimen

India ink preparation

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no Cryptococcus identified

Influenza washings

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Microbiology

KOH prep

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no fungus identified

Legionella Antigen

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Malaria Smear

Equivalents: Malaria Smear

Normal Values

Adult Male, Adult Female, Pediatric
no malarial parasites observed

Minimum inhibitory concentration

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

standard values are determined by antibiotic manufacturers. Patient results are reported to physician as a numerical value. This numerical value reflects the minimal amount of antibiotic needed to sufficiently treat the patient.

Naegleria stain

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no naegleria seen

Nasal smear for eosinophils

Equivalents: Nasal smear for eosinophils

Normal Values

Adult Male, Adult Female, Pediatric
no eosinophils identified

Nasal washings for RSV

Equivalents: Nasal Smear for RSV

Normal Values

Adult Male, Adult Female, Pediatric
RSV not detected

Microbiology

Nocardia Culture

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no Nocardia sp isolated

Pneumosystis

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no Pneumosystis seen

Quantitative Bacterial Culture

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Schlichter Serum

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

peak titers of 1:32 and trough titers of 1:8

Scotch tape prep for pin worms

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no Enterobius vermicularis eggs identified

Sputum for acid fast bacilli

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no growth and no acid fast bacilli on smear of culture

Sputum for bacterial and sensitivity

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Microbiology

Sputum for cytology

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Sputum for viral culture

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no cytopathic effect (CPE) is expected on cell culture

Stool culture, routine (bacterial and viral)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative for salmonella, shigella, campylobacter, and if indicated E. coli

Streptococcus Group A antigen and culture

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative for Group A streptococci

Throat culture

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative for pathogenic organisms

Trichomonas wet prep and culture

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no Trichomonas observed

Urine cultures

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no bacteria detected

Microbiology

Vaginal Wet Prep

Equivalents:

Normal Values

Adult Male

not applicable

Adult Female

normal vaginal flora observed; negative for pathogenic microorganisms

Pediatric

male: not applicable; female: normal vaginal flora observed; negative for pathogenic microorganisms

Woods Light

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no fluorescence

MRI

Abdomen (MRI)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

all structures normal; no solid or cystic masses seen; normal soft tissues of abdomen.

Arm (MRI)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal fat, muscles, tendons, ligaments, nerves, blood vessels and marrow of limbs and joints.

Cervical (MRI)

Equivalents: Neck (MRI)

Normal Values

Adult Male, Adult Female, Pediatric

all structures normal; no solid or cystic masses seen

Chest (MRI)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

all structures normal; no solid or cystic masses seen

Circle of Willis (MRA)

Equivalents

Normal Values

Adult Male, Adult Female, Pediatric

all structures normal; no solid or cystic masses seen

Head (MRI)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal soft tissue structure of brain; no solid or cystic masses seen

Leg (MRI)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal fat, muscles, tendons, ligaments, nerves, blood vessels and marrow of limbs and joints.

MRI

Neck (MRA)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

all structures normal; no solid or cystic masses seen

Neck (MRI)

Equivalents: Cervical (MRI)

Normal Values

Adult Male, Adult Female, Pediatric

all structures normal; no solid or cystic masses seen

Orbital {face} (MRI)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

all structures normal; no solid or cystic masses seen

Pelvis (MRI)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal soft tissue of pelvis; no solid or cystic masses seen

Vertebrae - Lumbar (MRI)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal spinal cord and subarachnoid spaces

Vertebrae - Thoracic (MRI)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal spinal cord and subarachnoid spaces

Nuclear

131 Iodine Neck & Chest Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no "hot" or "cold" nodules seen; no evidence of ectopic thyroid tissue

Blood volume (whole blood)

Equivalents: Blood volume (whole blood)

Normal Values

Adult Male

53-70 mL/kg

Adult Female

54-63 mL/kg

Pediatric

55-80 mL/kg

Bone Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No areas of greater or lesser concentration of radioactive material in bones

Captopril Renography

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Cerebral Flow and Brain Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal extracranial and intracranial blood flow, normal distribution and symmetry

Cystogram

Equivalents: Urodynamic Studies, Voiding cystourethrogram, Retrograde Cystourethrogram, Cystometrography and Flow Studies

Normal Values

Adult Male, Adult Female, Pediatric

normal bladder outline, no obstructions, tumors, or abdominal pathology noted

Diuretic Renography

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no renal obstruction detected

Nuclear

Gallbladder Scan

Equivalents: Oral cholecystogram, HIDA Scan With CCK, Gallbladder, HIDA

Normal Values

Adult Male, Adult Female, Pediatric

Normal gallbladder, biliary system, and duodenum

Gallium scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no evidence of tumor-type activity

Gastric Emptying W/WO Reglan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal gastric emptying and half-time clearance of fundus and pylorus, no sites of active bleeding

GE Reflux Study

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Computer-generated curve of less than 4% gastric reflux across the esophageal sphincter

IV CCK

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal functioning of gallbladder . Ducts without stones

Liver-Spleen Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

liver scan: normal liver size, shape, and position within the abdomen; normal size of cardiac impression on liver; normally functioning liver and reticuloendothelial ; spleen scan: normal spleen size (7-14 cm), function, and blood flow (to spleen) with spleen uptake less than the liver

Lung Ratios

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

air distribution appropriate; no air sac obstruction detected

Nuclear

Meckel's Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal blood flow in abdomen; normal distribution of radiopharmaceutical; no evidence of ectopic tissue

Persantine Thallium Cardiac Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no EKG changes; Thallium imaging does not reveal any areas of reversible ischemia

Radionuclide venography

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Radionuclide ventriculography (MUGA scan)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal wall motion, ejection fractions, synchronized and phase contractions

Renal GFR

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no pathology detected

Renal Scan with Flow

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal and equal blood flow radiopharmaceutical distribution and clearance in both kidneys

Renal Transplant Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Nuclear

Resting Thallium Myocardial Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no pathology detected

Salivary Gland Imaging

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Normal size, shape, and position of glands and no evidence of tumor-type activity or blockage of ducts

Schilling Test

Equivalents: Schilling Test - other

Normal Values

Adult Male, Adult Female, Pediatric
Excretion of 7% or more of test dose of cobalt-tagged vitamin B12 in urine

Stress Isonitrile Myocardial Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Normal myocardial uptake; no areas of ischemia; normal stress test: ECG and blood pressure normal

Stress Thallium Myocardial Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Normal myocardial uptake; no areas of ischemia; normal stress test: ECG and blood pressure normal

Tagged Red Blood Cell Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no evidence of active bleeding

Technetium Pyrophosphate Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no myocardial infarction detected

Nuclear

Testicular Scan

Equivalents:

Normal Values

Adult Male

normal blood flow to scrotal structures with even distribution and concentration of radiopharmaceutical

Adult Female

not applicable

Pediatric

male: normal blood flow to scrotal structures with even distribution and concentration of radiopharmaceutical;
female: not applicable

Thyroid Uptake and scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal or evenly distributed concentration of radioactive iodine; normal size, position, shape, weight and function of thyroid; absence of nodules

TRH Stimulation Test

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no pathology noted

Ventilation-Perfusion (VQ) Lung Scan

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal functioning lung, normal pulmonary vascular supply, and normal gases exchanged

Other

Abdominal Laparotomy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal liver and greater curvature of the stomach

Arthrocentesis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Synovial fluid; Viscosity: high; Clarity: transparent; color: clear; WBC: <200/mL; polymorphonuclear leukocytes: <25%; culture: negative; glucose: approximately serum (mg/dL)

Arthroscopy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal joints, vasculature and synovium capsule, menisci, tendons, ligaments and articular cartilage

Aspiration Biopsy of the Pancreas

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative; no abnormal cells present

Audiometry (audiogram)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no abnormalities noted; hearing normal

Biophysical Profile

Equivalents: Biophysical profile

Normal Values

Adult Male

not applicable

Adult Female

non-pregnant: not applicable; pregnant: 10 points: nonstress test-2; muscle tone-2; motion-2; respiration-2; amniotic fluid-2

Pediatric

Male - not applicable Female if pregnant -10 points: nonstress test-2; muscle tone-2; motion-2; respiration-2; amniotic fluid-2

Other

Biopsy- Bone

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative; no abnormal cells present

Biopsy- Brain

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Negative; no abnormal cells present

Biopsy- Breast (fine needle aspiration)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Negative; no abnormal cells present.

Biopsy- Breast (stereotactic)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Negative; no abnormal cells present.

Biopsy- Bronchial

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Negative; no abnormal cells present.

Biopsy- Cervical

Equivalents:

Normal Values

Adult Male

Not applicable

Adult Female

Negative; no abnormal cells present.

Pediatric

male: not applicable; females: Negative; no abnormal cells present.

Other

Biopsy- Colon

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present

Biopsy- Endometrium

Equivalents:

Normal Values

Adult Male

not applicable

Adult Female

Negative; no abnormal cells present

Pediatric

Male: not applicable Female: negative; no abnormal cells present

Biopsy- Groin

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present

Biopsy- Kidney

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present

Biopsy- Liver

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present.

Biopsy- Lung

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present.

Biopsy- Lymph Node (excisional)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present.

Other

Biopsy- Mouth

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present

Biopsy- Muscle

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present.

Biopsy- Pleura

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present.

Biopsy- Prostate

Equivalents:

Normal Values

Adult Male

Negative; no abnormal cells present.

Adult Female

Not applicable

Pediatric

Male: Negative; no abnormal cells present. Female: Not applicable

Biopsy- Rectal

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present.

Biopsy- Skin

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present.

Biopsy- Small Bowel

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present.

Other

Biopsy- Stomach

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present

Biopsy- Temporal Artery

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Unremarkable

Biopsy- Thyroid

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Negative; no abnormal cells present

Biopsy and Aspirate- Bone Marrow

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No abnormal pathology seen

Breath Hydrogen Test

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Less than 20 parts per million compared to baseline

Bronchial Washings Cytology

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No atypical cells

Bronchoscopy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal trachea, bronchi, nasopharynx, pharynx, and select peripheral airways

Other

Cell Count (synovial fluid)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

WBCs: 0-200 WBCs/cumm; neutrophils: 0-25%; protein: 0-3 g/dL

Colposcopy

Equivalents:

Normal Values

Adult Male

Not Applicable

Adult Female

Normal vagina, cervix and genital area

Pediatric

Male: Not Applicable; female: Normal vagina, cervix and genital area

Crystal Identification by Polarizing Microscopy, Synovial Fluid

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

RBCs: none, no crystals seen

Culdoscopy

Equivalents:

Normal Values

Adult Male

Not Applicable

Adult Female

no abnormal pathology seen

Pediatric

Male: not applicable Female: no abnormal pathology seen

Cystoscopy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal urethra and bladder, no stones noted; no mucosal lesions or tumors identified; Efflux from both orifices is clear; prostate normal; no hypertrophy noted

Depression Inventory Score

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

see inventory

Diagnostic (explorative) Surgery

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No abnormalities noted; negative

Other

Dilation and Curettage of uterus, D&C of uterus

Equivalents:

Normal Values

Adult Male

Not Applicable

Adult Female

No abnormal pathology noted

Pediatric

Male: Not applicable

Female: No abnormal pathology noted

Direct Laryngoscopy, Indirect Laryngoscopy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

No abnormal pathology noted

Edrophonium Chloride (tensilon) Test

Equivalents: Tensilon Test

Normal Values

Adult Male, Adult Female, Pediatric

0-0.03 nmol/L

Eye Chart and/or Tangent Screen

Equivalents: Visual Fields and Acuity

Normal Values

Adult Male, Adult Female, Pediatric

R-fullfield: close, 20/20; far, 20/20; L-fullfield: close, 20/20; far, 20/20

Hysteroscopy

Equivalents:

Normal Values

Adult Male

Not applicable

Adult Female

No abnormal pathology noted

Pediatric

Male: not applicable

Female: No abnormal pathology noted

Inferior Petrosal Sinus ACTH Sampling

Equivalents: Inferior petrosal sinus ACTH sampling

Normal Values

Adult Male, Adult Female, Pediatric

No abnormal pathology noted

Other

Laparoscopy

Equivalents:

Normal Values

Adult Male

liver, gallbladder, spleen and greater curvature of stomach normal in size, shape and appearance

Adult Female

liver, gallbladder, spleen and greater curvature of stomach normal in size, shape and appearance

Pediatric

liver, gallbladder, spleen and greater curvature of stomach normal in size, shape and appearance

Mediastinoscopy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no evidence of disease; normal lymph glands

Nasal Smears for Eosinophils

Equivalents: Nasal smear for eosinophils

Normal Values

Adult Male, Adult Female, Pediatric

no eosinophils identified

Non-Stress Test

Equivalents: Non-Stress Test

Normal Values

Adult Male

Not applicable

Adult Female

spontaneous fetal movement noted 3 times in 15 minutes associated with rise in fetal heart rate

Pediatric

male: not applicable; pregnant female: spontaneous fetal movement noted 3 times in 15 minutes associated with rise in fetal heart rate

Papanicolaou (Pap) Smear

Equivalents:

Normal Values

Adult Male

Not applicable

Adult Female

class I, no abnormal cells seen

Pediatric

male: not applicable; female: class I, no abnormal cells seen

Paracentesis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative for abnormal cells

Other

Peak Flow Meter

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

TV-500 ml

Pliethysmograph

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Test is normal

Postcoital Test

Equivalents:

Normal Values

Adult Male

Not applicable

Adult Female

unremarkable

Pediatric

Male: not applicable

Female: unremarkable

Post Void Residual Urine

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal

Psychometric Testing

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

performance typical for age

Pulmonary Ergometry

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Pulmonary Function Studies (spirometry) (PFT)

Equivalents: spirometry

Normal Values

Adult Male, Adult Female

predicted values are based on age, height, and sex; Total lung capacity (TLC): 4000-6000 mL; Tidal volume (TV): 500 mL; Inspiratory Capacity (IC): 2500-3600 mL; Functional Residual Capacity (FRC): 2400-3000 mL; Expiratory Reserve Volume (ERV): 1200-1500 mL; Vital Capacity (VC): 4000-4800 mL; Residual Volume (RV): 1200-1500 mL; Forced Vital Capacity (FVC): 3000-5000 mL; The total FVC should be exhaled in approximately 6 seconds; The FEV is expressed in liters; FEV1: 81-83% exhaled in 1 second; FEV2: 90-94% exhaled in 2 seconds; FEV3: 95-97% exhaled in 3 seconds

Pediatric

predicted values are based on age, height, and sex

Other

Pulse Oximetry

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

90%-100%

Renal Vein Renin

Equivalents: Renin (Blood)

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Schilling Test

Equivalents: Schilling Test

Normal Values

Adult Male, Adult Female, Pediatric

>10% excretion in the urine of radioactive B12

Schirmer's Test

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

> 10 mm wetting in 10 minutes

Semen Analysis

Equivalents:

Normal Values

Adult Male

Volume: 2-5 mL; appearance: white, viscid, opaque; clotting and liquefaction: complete in 20-30 minutes; pH: 7.12-8; sperm count: 50-150 million/mL; motility: at least 60% mobile

Adult Female

Not applicable

Pediatric

male: Volume: 2-5 mL; appearance: white, viscid, opaque; clotting and liquefaction: complete in 20-30 minutes; pH: 7.12-8; sperm count: 50-150 million/mL; motility: at least 60% mobile; female: not applicable

Sleep Studies

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no episodes of apnea reported

Slit Lamp

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Other

Spirometry (PFT)

Equivalents: Pulmonary Function Studies (spirometry) (PFT)

Normal Values

Adult Male, Adult Female

predicted values are based on age, height, and sex; Total lung capacity (TLC): 4000-6000 mL; Tidal volume (TV): 500 mL; Inspiratory Capacity (IC): 2500-3600 mL; Functional Residual Capacity (FRC): 2400-3000 mL; Expiratory Reserve Volume (ERV): 1200-1500 mL; Vital Capacity (VC): 4000-4800 mL; Residual Volume (RV): 1200-1500 mL; Forced Vital Capacity (FVC): 3000-5000 mL; The total FVC should be exhaled in approximately 6 seconds; The FEV is expressed in liters; FEV1: 81-83% exhaled in 1 second; FEV2: 90-94% exhaled in 2 seconds; FEV3: 95-97% exhaled in 3 seconds

Pediatric

predicted values are based on age, height, and sex

Sputum Cytology

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no abnormal cells present

Sweat Chloride Test

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

0-50 mmol/L (mEq/L)

Tensilon Test

Equivalents: Edrophonium Chloride (tensilon) Test

Normal Values

Adult Male, Adult Female, Pediatric

0-0.03 nmol/L

Thoracentesis

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative for abnormal cells

Thoroscopic Examination

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal appearing pleural surfaces and lung

Tonometry

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

less than 20 mmHg bilaterally

Other

Tympanograms

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Viscosity, Blood

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

1.4-1.8 times that of water

Visual Fields and Acuity

Equivalents: Eye Chart and/or Tangent Screen

Normal Values

Adult Male, Adult Female, Pediatric

visual acuity: 20/20; visual fields: full, without any obvious blind spots, and there is no extinction

Water Deprivation Test

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Special Procedures

Abdominal aortic and ileofemoral angiogram

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Amniocentesis

Equivalentents:

Normal Values

Adult Male

not applicable

Adult Female

Normal fetal, maternal, and placental anatomy' fetal viability, adequate amniotic fluid volumes

Pediatric

male: not applicable; female: normal fetal, maternal, and placental anatomy' fetal viability, adequate amniotic fluid volumes

Angiogram, Lower Extremity

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Angiogram, Upper Extremity

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Aortic Angiogram (Thoracic)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Balloon Dialation of Prostate

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Bronchogram

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Special Procedures

Bronchoscopy

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal trachea, bronchi, nasopharynx, and alveoli

Carotid Angiogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Celiac Artery Angiogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Cerebral Angiogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Endoscopic Retrograde Cholangio Pancreatogram (ERCP)

Equivalents: Endoscopic Retrograde Cholangio Pancreatogram (ERCP) - GI

Normal Values

Adult Male, Adult Female, Pediatric

Patent normal pancreatic ducts, hepatic ducts, common bile ducts, duodenal papilla, ampulla of Vater, and gallbladder

HIDA Scan With CCK

Equivalents: Oral cholecystogram, Gallbladder, HIDA, Gallbladder Scan

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Lymphangiogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal lymphatic vessels and nodes

Special Procedures

Mammography

Equivalents: Mammography (x-ray)

Normal Values

Adult Male

Essentially normal breasts : Calcification absent or evenly distributed

Adult Female

Essentially normal breasts : Calcification absent or evenly distributed if present : Normal duct contrast with gradually narrowing ductal branches

Pediatric

Essentially normal breasts : Calcification absent or evenly distributed

Mesenteric Angiogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Myelogram

Equivalents: Myelogram (x-ray)

Normal Values

Adult Male, Adult Female, Pediatric

no distortion of the outline of the subarachnoid space

Percutaneous Transhepatic Cholangiogram (PTC)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no duct obstruction, choledocholithiasis or dilatation

Pulmonary Angiogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Renal Angiogram/Arteriogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Special Procedures

Retrograde Cystourethrogram

Equivalents: Urodynamic Studies, Voiding cystourethrogram, Cystogram, Cystometrography and Flow Studies

Normal Values

Adult Male, Adult Female, Pediatric

normal contour and size of ureters and kidneys; urethral pressure profile readings normal

Retrograde Pyelography

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal contour and size of ureters and kidneys

Sinogram of Parotids

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Venogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Ventriculogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

no distortion of the outline of the subarachnoid space

Vertebral Angiogram (cervical)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy, with no evidence of stenosis, aneurysm, or other arteriovenous malformation

Stool

Chlamydiazyme

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Occult Blood (Guaiac, heme-occult)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
Negative

Osmolality

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
200-250 mOsm

Ova and Parasites (O and P, O & P)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
no ova or parasites observed

pH, Stool

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
neutral to slightly alkaline (diet dependent)

Rotazyme

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Stool Culture for Clostridia Difficile

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Stool Culture for E. Coli

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Stool

Stool culture for Enteric Pathogens, routine

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Stool Culture for Giardia

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Stool Fat

Equivalents:

Normal Values

Adult Male, Adult Female
1-7 g/24h
Pediatric
0-5 g/24h

Stool for Cryptosporidium

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Stool for Leukocytes (Stool WBC)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Stool for Reducing Substances

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
negative

Stool Nitrogen

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
1-2 g/24h

Ultrasound

Abdomen (Ultrasound)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal sonographic anatomy of upper abdominal organs, normal aortic locations, dimensions, and content

Biliary Tract (Ultrasound)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal gallbladder size and position. Normal lumen of bile ducts. No evidence of calculi or sludge. Normal liver tissue

Biophysical profile

Equivalentents: Biophysical profile - other

Normal Values

Adult Male

not applicable

Adult Female

10 points: non-stress test-2; muscle tone-2; motion-2; respiration-2; amniotic fluid-2

Pediatric

male: not applicable; female if pregnant: 10 points: non-stress test-2; muscle tone-2; motion-2; respiration-2; amniotic fluid-2

Breast (Ultrasound)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

normal sonographic anatomy of breast tissues

Carotid

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal vascular anatomy of common carotid artery, internal and external carotids (often vertebral arteries), with no evidence of stenosis or occlusion. Normal blood flow patterns in these major arteries.

Doppler Blood Flow (arterial)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal position, size, and movement of heart valves and chamber walls. Appropriate blood flow and hemodynamic patterns.

Ultrasound

Duplex color flow

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal position, size, and movement of heart valves and chamber walls. Appropriate blood flow and hemodynamic patterns.

Extremity (Ultrasound)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Heart (cardiac ECHO)

Equivalents: Echocardiogram (Echo)

Normal Values

Adult Male, Adult Female, Pediatric

Normal position, size, and movement of heart valves and chamber walls. Appropriate blood flow and hemodynamic patterns.

Kidney (Ultrasound)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal sonographic image of renal parenchyma, collecting structures, blood vessels, and urinary bladder

Pancreas (Ultrasound)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Pelvis (Ultrasound)

Equivalents:

Normal Values

Adult Male

unremarkable

Adult Female

Normal sonographic image of urinary bladder, vagina, uterus, ovaries, and major pelvic blood vessels

Pediatric

male: unremarkable; female: Normal sonographic image of urinary bladder, vagina, uterus, ovaries, and major pelvic blood vessels

Ultrasound

Testes (Ultrasound)

Equivalentents:

Normal Values

Adult Male

no lesions or malignancies seen

Adult Female

not applicable

Pediatric

male: no lesions or malignancies seen Female: not applicable

Thyroid

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no masses or cysts visable: thyroid normal size

Trans-rectal ultrasound of prostate

Equivalentents:

Normal Values

Adult Male

Normal size and consistency of prostate gland

Adult Female

not applicable

Pediatric

male: Normal size and consistency of prostate gland; female: not applicable

Trans-vaginal Ultrasound

Equivalentents:

Normal Values

Adult Male

not applicable

Adult Female

no pelvic masses or abscesses seen. Uterus size normal. non-pregnant.

Pediatric

male: not applicable female: no pelvic masses or abscesses seen. Uterus size normal. non-pregnant.

Uterus

Equivalentents:

Normal Values

Adult Male

not applicable

Adult Female

no pelvic masses or abscesses seen. Uterus size normal. non-pregnant.

Pediatric

male: not applicable female: no pelvic masses or abscesses seen. Uterus size normal. non-pregnant.

Ultrasound

Venous Duplex Ultrasound (Doppler Studies)

Equivalents: Doppler Studies - Cardiovascular

Normal Values

Adult Male, Adult Female, Pediatric

Normal position, size, and movement of heart valves and chamber walls. Appropriate blood flow and hemodynamic patterns.

Urine

17 - Hydroxycorticosteroids

Equivalents:

Normal Values

Adult Male

3.0-10.0 mg/day

Adult Female

2.0-6.0 mg/day

Pediatric

<1.5 mg/24hr

17-Ketosteroids

Equivalents:

Normal Values

Adult Male

8-20 mg/24h

Adult Female

5-15 mg/24h

Pediatric

0-2 mg/24h

5-hydroxyindoleacetic acid

Equivalents:

Normal Values

Adult Male , Pediatric Male

3-10 mg/24h

Adult Female, Pediatric Female

2-6 mg/24h

Acetone (ketone)

Equivalents: Acetone (Blood), Ketone (Blood)

Normal Values

Adult Male, Adult Female, Pediatric

negative

Aldosterone (Urine)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

3-19 ug/24hrs (SI: 8-53 nmol/day)

Amino acid screen, qualitative (metabolic screen)

Equivalents: Metabolic screen for amino acids

Normal Values

Adult Male, Adult Female, Pediatric

Subjective interpretation based on comparison of patient, normal, and control urines of comparable age.

Urine

Amylase clearance

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

2 - 34 U/2h 24 - 408/24 hr

Antidiuretic Hormone (ADH)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

1-5 pg/mL

Bence Jones Protein

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

No Bence Jones proteins detected

Calcium, Ca (Urine)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

50-300 mg/24hrs vased on average calcium intake of 600-800 mg/24hrs

Catecholamines

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

epinephrine: 0-20 ug/24 hrs (SI: 0-118 nmol/day); norepinephrine: 15-80 ug/24hrs (SI: 89-473 nmol/day); dopamine: 65-400 ug/24hrs (SI: 420-2600 nmol/day); metanephrines: <0.9 mg/24h

Chloride, Cl (Urine)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

110-250 mEq/24hrs

Copper, Cu (Urine)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

0-100 ug/24h

Coproporphyrin

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

<320 nmol/L

Urine

Cortisol, Free, Urine

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

10-110 ug/24h

Creatinine (Urine)

Equivalents:

Normal Values

Adult Male, Adult Female

0.7-2.0 g/24hrs

Pediatric

0-3 yr: 0.1-0.6 mg/dL; 3-18 yr: 0.1-1.2 mg/dL

Creatinine clearance

Equivalents:

Normal Values

Adult Male

85-125 mL/minute

Adult Female

75-115 mL/minute

Pediatric

male: 85-125 mL/min; female: 75-115 mL/min

Cyclic AMP (Urine)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal range accompanies report

Cystine or cysteine

Equivalents:

Normal Values

Adult Male, Adult Female

Qualitative: negative; Quantitative: 7-28 mg/24h

Pediatric

Qualitative: negative; Quantitative: <8 yrs of age: 2-13 mg/24h, >8 yrs of age: 7-28 mg/24h

Delta ALA

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

0-7.5 mg/24h

Drug Screen (toxicology, quantitative)(Urine)

Equivalents: Drug Screen (toxicology, quantitative)(Blood)

Normal Values

Adult Male, Adult Female, Pediatric

None detected

Urine

Electrolytes (Urine)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

please order individual tests

Estrogens, total (estradiol, estriol, estrone)

Equivalents:

Normal Values

Adult Male

15 -40 Ug/24 hours

Adult Female

15-80 ug/24 hours

Pediatric

<10 ug/24 hours

Glucose-dipstick

Equivalents: Urine glucose dipstick

Normal Values

Adult Male, Adult Female, Pediatric

none detected

Human chorionic gonadotropin (Pregnancy test, routine)

Equivalents: Pregnancy test

Normal Values

Adult Male, Pediatric Male

not applicable

Adult Female, Pediatric Female

negative

Hydroxyproline

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

total hydroxyproline: 15-43 mg/24h; free hydroxyproline: 2-5% of total

Lead, Pb (Urine)

Equivalents:

Normal Values

Adult Male, Adult Female

0-8 ug/dL

Pediatric

0-10 ug/dL

Urine

Lysozyme (Urine)

Equivalents: Muramidase (Urine)

Normal Values

Adult Male, Adult Female, Pediatric

0-1.4 ug/mL (0-0.097 umol/L)

Metabolic screen for amino acids

Equivalents: Amino acid screen, qualitative (metabolic screen)

Normal Values

Adult Male, Adult Female, Pediatric

dependent on patient's age

Metanephrine, Total (Normetanephrine)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

metanephrine: 27-297 ug/24h; normetanephrine: 105-354 ug/24h

Muramidase (Urine)

Equivalents: Lysozyme (Urine)

Normal Values

Adult Male, Adult Female, Pediatric

0 -1.4

Myoglobin

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Oxalate

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

8-40 mg/24h

Phosphorus, P (Urine)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

0.9-1.3 g/24hr, dependent on dietary intake

Porphobilinogen

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Urine

Potassium, K (Urine)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

53-91 mEq/L/24hrs

Pregnancy Test (Urine)

Equivalents: Human chorionic gonadotropin (Pregnancy test, routine)

Normal Values

Adult Male, Pediatric Male

not applicable

Adult Female, Pediatric Female

negative

Pregnanediol

Equivalents:

Normal Values

Adult Male

0.0-1.9 mg/dL

Adult Female

follicular: 0-26 mg/dL; pregnancy: 10-100 mg/dL; postmenopausal: 0.2-1 mg/dL

Pediatric

children: 0.0-1.1 mg/dL

Pregnanetriol

Equivalents:

Normal Values

Adult Male, Adult Female

0.0-2.5 mg/24h

Pediatric

< 2.5 mg/24 hr

Protein, Quantitative

Equivalents:

Normal Values

Adult Male, Adult Female

1-14 mg/dL

Pediatric

0-10 yr: 1-10 mg/dL; 10+ yr: 1-14 mg/dL

Pyridinium Collagen Cross-links

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Pyridinoline: premenopausal women: 25-83 nmol PCE/mmol creatinine; postmenopausal women: 29-106 nmol PCE/mmol creatinine

Urine

Sodium, Na (Urine)

Equivalents:

Normal Values

Adult Male

average diet 130-260 mmol/L

Adult Female

average diet 27-287 mmol/L

Pediatric

premature: 130-140 mmol/L older: 135-148 mmol/L

Specific Gravity

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

1.002-1.030

Sugars (fructose, pentose)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

negative

Urea nitrogen

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

6-17 mg/dL

Uric acid

Equivalents:

Normal Values

Adult Male, Adult Female

2.0-7.0 mg/dL

Pediatric

2.0-5.5 mg/dL

Urinalysis, routine (UA)

Equivalents:

Normal Values

Adult Male, Adult Female

specific gravity: 1.003-1.030; pH: 4.5-7.5; protein: negative; bilirubin: negative; glucose: negative; ketones: negative; occult blood: negative; RBCs: 0-1/hpf; WBCs: 0-3/hpf; bacteria: negative; casts: 0-3 hyaline casts/lpf; crystals: interpreted by physician

Pediatric

specific gravity: neonate: 1.003-1.012, infant: 1.002-1.006, children: 1.003-1.030; pH: newborn/infant: 5-7, children: 4.5-7.5; protein: negative; bilirubin: negative; glucose: negative; ketones: negative; occult blood: negative; RBCs: 0-1/hpf; WBCs: 0-3/hpf; bacteria: negative; casts: 0-3 hyaline casts/lpf; crystals: interpreted by physician

Urine

Urine glucose dipstick

Equivalents: glucose dipstick

Normal Values

Adult Male, Adult Female, Pediatric

none detected

Urine Osmolality

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

300-1000 mOsm/kg H₂O for random urine

Urobilinogen

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

24h specimen: 1-4 mg/24h; random specimen: 0.1-1 Ehrlich unit/mL

Uroporphyrin

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

0-30 ug/24h

Vanillylmandelic Acid (VMA)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

0-10 mg/24h

X-rays

Abdomen (KUB, x-ray)

Equivalents: KUB (x-ray)

Normal Values

Adult Male, Adult Female, Pediatric
unremarkable

Ankle (X-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
unremarkable

Aortogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
unremarkable

Arm/hand (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
normal osseous and soft-tissue structures

Arthrogram

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
normal filling of encapsulated joint structures: joint space, bursae, menisci, ligaments, and articular cartilage

Barium Enema (BE)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric
normal position, contour, filling, rate of passage of barium, movement, and patency of colon

Barium esophagram

Equivalents: Barium swallow

Normal Values

Adult Male, Adult Female, Pediatric
normal size, contour, swallowing, peristalsis, and movement of material through esophagus

X-rays

Barium swallow

Equivalents: Barium esophagram

Normal Values

Adult Male, Adult Female, Pediatric

normal size, countour, swallowing, peristalsis, and movement of material through esophagous

Bone Densitometry - Forearm

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

age-matched controls and young adult controls are listed in this report

Bone densitometry - DEXA SCAN Hip and Lumbar Spine

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

age-matched controls and young adult controls are listed in this report

Cervical Spine (x-ray) (C spine)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Chest (x-ray) (CXR)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal posterior-anterior and lateral chest radiograph; pulmonary markings, cardiac size; pleura and soft tissue structures, and proper invasive line positioning

Dental (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal mandible, maxilla, temporomandibular joint, maxillary sinuses and primary or permanent dentition

Face/sinuses (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Femur (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

X-rays

Fluoroscopy

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

no pathology detected

Foot (x-ray)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Gallbladder, HIDA

Equivalentents: Oral cholecystogram, HIDA Scan With CCK, Gallbladder Scan

Normal Values

Adult Male, Adult Female, Pediatric

Normal structure and functioning (filling, concentration, contraction, and emptying) of gallbladder and ducts.

No stones.

Head/skull (X-ray)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Hip (x-ray)

Equivalentents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Hysterosalpingogram

Equivalentents:

Normal Values

Adult Male

not applicable

Adult Female

normal intrauterine cavity; patent fallopian tubes

Pediatric

male: not applicable; female: normal intrauterine cavity; patent fallopian tubes

X-rays

IVP (intravenous pyelogram)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal size, shape, position of the kidneys, ureters, and bladder; generally kidneys should be visualized within 5 minutes after administration of contrast media

Jaw (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Knee (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

KUB (x-ray)

Equivalents: Abdomen (KUB, x-ray)

Normal Values

Adult Male, Adult Female, Pediatric

Normal abdominal structures

Lateral neck (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Leg/foot (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Lumbar spine (x-ray) (L spine, LS spine)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

X-rays

Mammography (x-ray)

Equivalents: Mammography, special procedures

Normal Values

Adult Male

Essentially normal breast tissue. Calcification, if present, should be evenly distributed

Adult Female, Pediatric

Essentially normal breast tissue. Calcification, if present, should be evenly distributed; normal ducts with gradual narrowing ductal system branches

Myelogram

Equivalents: Myelogram

Normal Values

Adult Male, Adult Female, Pediatric

no distortion of the outline of the subarachnoid space

Oral cholecystogram

Equivalents: HIDA Scan With CCK, Gallbladder, HIDA, Gallbladder Scan

Normal Values

Adult Male, Adult Female, Pediatric

Normal structure and functioning (filling, concentration, contraction, and emptying) of gallbladder and ducts. No stones.

Pelvimetry

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal pelvic bone structure, shape and size

Pelvis (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Ribs (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Sacral spine (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

X-rays

Scoliosis Series

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Shoulder (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Soft Tissue (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal soft-tissue structures

Sternal (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

Thoracic spine (x-ray) (T spine)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Tibia (x-ray)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

normal osseous and soft-tissue structures

Tomogram of chest

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

unremarkable

X-rays

UGI and small bowel follow-through (upper gastrointestinal series)

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal position, size, contour, motility, and peristaltic patterns of the esophagus, stomach, and duodenum.
Normal small intestine position, contour, and filling.

Voiding cystourethrogram

Equivalents: Urodynamic Studies, Cystogram, Retrograde Cystourethrogram, Cystometrography and Flow Studies

Normal Values

Adult Male, Adult Female, Pediatric

no motor or sensory defects; appropriate contractions of pelvic floor muscle and internal sphincter

Video esophagrams/swallow studies

Equivalents:

Normal Values

Adult Male, Adult Female, Pediatric

Normal position, size, contour, motility, and peristaltic patterns of the esophagus, stomach, and duodenum.

MANAGEMENT INSTRUCTIONS

In the management section, you will list all the treatment choices you deem applicable to properly **manage** the particular patient problem. Management choices are divided into ten different categories. The Medications category is divided into eight sub-categories. Some choices require you to provide specifics for the management order. For example, in the Follow-up category, orders for the Return visit require the user to specify the time frame or conditions under which a return visit is ordered. **All of your choices in the Management section should be appropriate for treating, rather than diagnosing the patient problem.**

For each management option you choose, check "Required" if that management option is necessary to properly manage the case. Check "Recommended" for treatments that are deemed desirable, but not absolutely necessary to case management. Lab tests and history and physical exam items appropriate for treatment should be listed on page 143 under "Related Labs" and "Related H&P."

If you want to attach a question to a particular management order, check "Question." Unless you specify a custom question and provide the text for that question, students who order this particular management will automatically be asked the **default question** ("What would be the purpose of this?"). If you don't want students to be questioned about their management choices, you must check "No Question." If you fail to check "No Question" in the program, the default question will automatically appear.

Most categories also include the choices of "Discontinue" and "Other." The "discontinue" option allows the user to end an interim management. "Other" allows the user to select a management that isn't listed.

ACTIVITY

Activities **Bed Rest**

Required Recommended
 Question No Question

Activities **Bed Rest with bathroom privileges**

Required Recommended
 Question No Question

Activities **Up Ad Libitum**

Required Recommended
 Question No Question

Activities **Up with assistance**

Required Recommended
 Question No Question

Activities **Discontinue...**

Required Recommended
 Question No Question

Activities Other...

- Required Recommended
 Question No Question

COLLABORATION

Collaboration Anesthesiologist

- Required Recommended
 Question No Question

Collaboration Cardiologist

- Required Recommended
 Question No Question

Collaboration Cardiothoracic Surgeon

- Required Recommended
 Question No Question

Collaboration Clinical Psychologist

- Required Recommended
 Question No Question

Collaboration Dietician

- Required Recommended
 Question No Question

Collaboration Pediatrician

- Required Recommended
 Question No Question

Collaboration Physical Therapist

- Required Recommended
 Question No Question

Collaboration Plastic Surgeon

Required Recommended
 Question No Question

Collaboration Psychiatrist

Required Recommended
 Question No Question

Collaboration Pulmonologist

Required Recommended
 Question No Question

Collaboration Radiation Oncologist

Required Recommended
 Question No Question

Collaboration Respiratory Therapist

Required Recommended
 Question No Question

Collaboration Speech Therapist

Required Recommended
 Question No Question

Collaboration Urologist

Required Recommended
 Question No Question

Collaboration Vascular Surgeon

Required Recommended
 Question No Question

Collaboration Discontinue....

Required Recommended
 Question No Question

Collaboration Other.....

- Required Recommended
 Question No Question

COMMUNITY RESOURCES

Community Resources Child abuse agency

- Required Recommended
 Question No Question

Community Resources Custodial Care

- Required Recommended
 Question No Question

Community Resources Domestic Violence Agency

- Required Recommended
 Question No Question

Community Resources Durable Medical Equipment

- Required Recommended
 Question No Question

Community Resources Elder Abuse Agency

- Required Recommended
 Question No Question

Community Resources Food Service/Distribution Agency

- Required Recommended
 Question No Question

Community Resources Home Health Care

- Required Recommended
 Question No Question

Community Resources Hospice Care

- Required Recommended
 Question No Question

Community Resources Housekeeping assistance

- Required Recommended
 Question No Question

Community Resources Income assistance

- Required Recommended
 Question No Question

Community Resources Prescription assistance

- Required Recommended
 Question No Question

Community Resources Public Health

- Required Recommended
 Question No Question

Community Resources Rehabilitation Services

- Required Recommended
 Question No Question

Community Resources Shelter/housing assistance

- Required Recommended
 Question No Question

Community Resources Substance Abuse agency/facility

- Required Recommended
 Question No Question

Community Resources Transportation assistance

- Required Recommended
 Question No Question

Community Resources Discontinue...

- Required Recommended
 Question No Question

Community Resources Other....

- Required Recommended
 Question No Question

COUNSELING

Counseling Family

- Required Recommended
 Question No Question

Counseling Grief

- Required Recommended
 Question No Question

Counseling Group

- Required Recommended
 Question No Question

Counseling Individual

- Required Recommended
 Question No Question

Counseling Marital

- Required Recommended
 Question No Question

Counseling Psychotherapy

- Required Recommended
 Question No Question

Counseling Relationship

- Required Recommended
 Question No Question

Counseling Support Group

- Required Recommended
 Question No Question

Counseling Discontinue....

- Required Recommended
 Question No Question

Counseling Other.....

- Required Recommended
 Question No Question

DIET

Diet As Tolerated

- Required Recommended
 Question No Question

Diet Clear Liquids

- Required Recommended
 Question No Question

Diet Full Liquids

- Required Recommended
 Question No Question

Diet Hyperalimentation

- Required Recommended
 Question No Question

Diet Low Fat

- Required Recommended
 Question No Question

Diet Low Protein

- Required Recommended
 Question No Question

Diet Low Salt

Required Recommended
 Question No Question

Diet Mechanical Soft

Required Recommended
 Question No Question

Diet NPO (Nothing by mouth)

Required Recommended
 Question No Question

Diet Regular

Required Recommended
 Question No Question

Diet Restricted Calorie Diabetic

Required Recommended
 Question No Question

Diet Tube Feeding

Required Recommended
 Question No Question

Diet Discontinue...

Required Recommended
 Question No Question

Diet Other...

Required Recommended
 Question No Question

EDUCATION

Education Diet

Required Recommended
 Question No Question

Education Exercise

Required Recommended
 Question No Question

Education Sex Education

Required Recommended
 Question No Question

Education Smoking

Required Recommended
 Question No Question

Education Substance Abuse

Required Recommended
 Question No Question

Education Weight Control

Required Recommended
 Question No Question

Education Discontinue...

Required Recommended
 Question No Question

Education Other...

Required Recommended
 Question No Question

FOLLOW-UP

Follow-up Return visit.....

Required Recommended
 Question No Question

Follow-up Telephone.....

Required Recommended
 Question No Question

Follow-up Other....

Required Recommended
 Question No Question

NURSING CARE

Nursing Care Continuous Cardiac Monitoring

Required Recommended
 Question No Question

Nursing Care Intravenous Fluids...

Required Recommended
 Question No Question

Nursing Care Measure Fluid intake and output

Required Recommended
 Question No Question

Nursing Care Notify if...

- Required Recommended
 Question No Question

Nursing Care Observe for...

- Required Recommended
 Question No Question

Nursing Care Weigh Daily

- Required Recommended
 Question No Question

Nursing Care Vital signs...

- Required Recommended
 Question No Question

Nursing Care Discontinue...

- Required Recommended
 Question No Question

Nursing Care Other...

- Required Recommended
 Question No Question

PROCEDURES

Procedures Bladder Catheter

- Required Recommended
 Question No Question

Procedures Continuous Cardiac Monitoring...

- Required Recommended
 Question No Question

Procedures CPR

- Required Recommended
 Question No Question

Procedures Foreign Body Removal

- Required Recommended
 Question No Question

Procedures Intubate Airway

- Required Recommended
 Question No Question

Procedures IV Fluids

- Required Recommended
 Question No Question

Procedures Nasogastric Tube

- Required Recommended
 Question No Question

Procedures Paracentesis

- Required Recommended
 Question No Question

Procedures Sigmoidoscopy

- Required Recommended
 Question No Question

Procedures Suture Laceration

- Required Recommended
 Question No Question

Procedures Thoracentesis

- Required Recommended
 Question No Question

Procedures Discontinue...

- Required Recommended
 Question No Question

Procedures Other...

- Required Recommended
 Question No Question

MEDICATIONS

NEUROMUSCULAR

Neuromuscular Adrenergic agonists

Required Recommended
 Question No Question

Neuromuscular Adrenergic blockers

Required Recommended
 Question No Question

Neuromuscular Analgesics, narcotic

Required Recommended
 Question No Question

Neuromuscular Analgesics, non-narcotic

Required Recommended
 Question No Question

Neuromuscular Anesthetics (general/local)

Required Recommended
 Question No Question

Neuromuscular Anti-anxiety

Required Recommended
 Question No Question

Neuromuscular Anticholinesterase

Required Recommended
 Question No Question

Neuromuscular Anticonvulsants

Required Recommended
 Question No Question

Neuromuscular Antidepressants

Required Recommended
 Question No Question

Neuromuscular Antimuscarinic (e.g. atropine)

Required Recommended
 Question No Question

Neuromuscular Antipsychotic

Required Recommended
 Question No Question

Neuromuscular Drugs for Parkinson's

Required Recommended
 Question No Question

Neuromuscular Ganglionic blocking

Required Recommended
 Question No Question

Neuromuscular Sedatives/hypnotics

Required Recommended
 Question No Question

Neuromuscular Skeletal muscle relaxants

Required Recommended
 Question No Question

Neuromuscular Discontinue....

Required Recommended
 Question No Question

Neuromuscular Other...

Required Recommended
 Question No Question

CARDIOVASCULAR

Cardiovascular Alpha receptor agonists

Required Recommended
 Question No Question

Cardiovascular Alpha receptor antagonists

Required Recommended
 Question No Question

Cardiovascular Anti-anginal

Required Recommended
 Question No Question

Cardiovascular Antiarrhythmics

Required Recommended
 Question No Question

Cardiovascular Antihypertensives/diuretics

Required Recommended
 Question No Question

Cardiovascular Beta agonists

Required Recommended
 Question No Question

Cardiovascular Beta blockers

Required Recommended
 Question No Question

Cardiovascular Calcium channel blockers

Required Recommended
 Question No Question

Cardiovascular Cardiac glycosides

Required Recommended
 Question No Question

Cardiovascular Drugs for hyperlipoproteinemia

Required Recommended
 Question No Question

Cardiovascular Hemorrhologic agents

Required Recommended
 Question No Question

Cardiovascular Inotropics

Required Recommended
 Question No Question

Cardiovascular Vasodilators

Required Recommended
 Question No Question

Cardiovascular Vasopressors

Required Recommended
 Question No Question

Cardiovascular Discontinue...

- | | |
|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> Required | <input type="checkbox"/> Recommended |
| <input type="checkbox"/> Question | <input type="checkbox"/> No Question |

Cardiovascular Other...

- | | |
|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> Required | <input type="checkbox"/> Recommended |
| <input type="checkbox"/> Question | <input type="checkbox"/> No Question |

ENDOCRINE

Endocrine Contraceptives

- | | |
|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> Required | <input type="checkbox"/> Recommended |
| <input type="checkbox"/> Question | <input type="checkbox"/> No Question |

Endocrine Hormones

- | | |
|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> Required | <input type="checkbox"/> Recommended |
| <input type="checkbox"/> Question | <input type="checkbox"/> No Question |

Endocrine Oral Hypoglycemics

- | | |
|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> Required | <input type="checkbox"/> Recommended |
| <input type="checkbox"/> Question | <input type="checkbox"/> No Question |

Endocrine Steroids

- | | |
|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> Required | <input type="checkbox"/> Recommended |
| <input type="checkbox"/> Question | <input type="checkbox"/> No Question |

Endocrine Discontinue.....

- | | |
|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> Required | <input type="checkbox"/> Recommended |
| <input type="checkbox"/> Question | <input type="checkbox"/> No Question |

Endocrine Other.....

Required Recommended
 Question No Question

ONCOLOGY

Oncology Cancer Chemotherapy

Required Recommended
 Question No Question

Oncology Immunosuppressives

Required Recommended
 Question No Question

Oncology Discontinue....

Required Recommended
 Question No Question

Oncology Other...

Required Recommended
 Question No Question

BLOOD PRODUCTS

Blood Products Albumin

Required Recommended
 Question No Question

Blood Products Anticoagulants/thrombolytics

Required Recommended
 Question No Question

Blood Products Factor 8 Concentrate

Required Recommended
 Question No Question

Blood Products Factor 9 Concentrate

Required Recommended
 Question No Question

Blood Products Fresh Frozen Plasma

Required Recommended
 Question No Question

Blood Products Packed Red Blood Cells

Required Recommended
 Question No Question

Blood Products Platelets

Required Recommended
 Question No Question

Blood Products Discontinue....

Required Recommended
 Question No Question

Blood Products Other...

Required Recommended
 Question No Question

ANTIMICROBIAL

Antimicrobial Antibacterial

Required Recommended
 Question No Question

Antimicrobial Antifungal

Required Recommended
 Question No Question

Antimicrobial Antiparasitic

Required Recommended
 Question No Question

Antimicrobial Antiviral

Required Recommended
 Question No Question

Antimicrobial Discontinue...

Required Recommended
 Question No Question

Antimicrobial Other...

Required Recommended
 Question No Question

PULMONARY

Pulmonary Bronchodilators

Required Recommended
 Question No Question

Pulmonary Oxygen

Required Recommended
 Question No Question

Pulmonary Discontinue....

Required Recommended
 Question No Question

Pulmonary Other...

Required Recommended
 Question No Question

MISCELLANEOUS

Miscellaneous Antacids

Required Recommended
 Question No Question

Miscellaneous Anti-inflammatory

Required Recommended
 Question No Question

Miscellaneous Antipyretics

Required Recommended
 Question No Question

Miscellaneous Laxatives

Required Recommended
 Question No Question

Miscellaneous Vitamins/minerals

Required Recommended
 Question No Question

Miscellaneous Discontinue...

Required Recommended
 Question No Question

Miscellaneous Other...

Required Recommended
 Question No Question

MANAGEMENT EVALUATION

You have already selected criteria for the portions of the Management plan that are Required and Recommended for inclusion in the student's management plan. In order to fully evaluate the student's selections, you should also list the following.

- all labs involved in **managing** the patient (Related Labs) and
- all history and physical exam information necessary to **manage** the patient case (Related H&P).

List your choices in the space provided.

Note: Do not list labs or history and physical exam items that are aimed at diagnosing the patient.

Related Labs

Related H & P

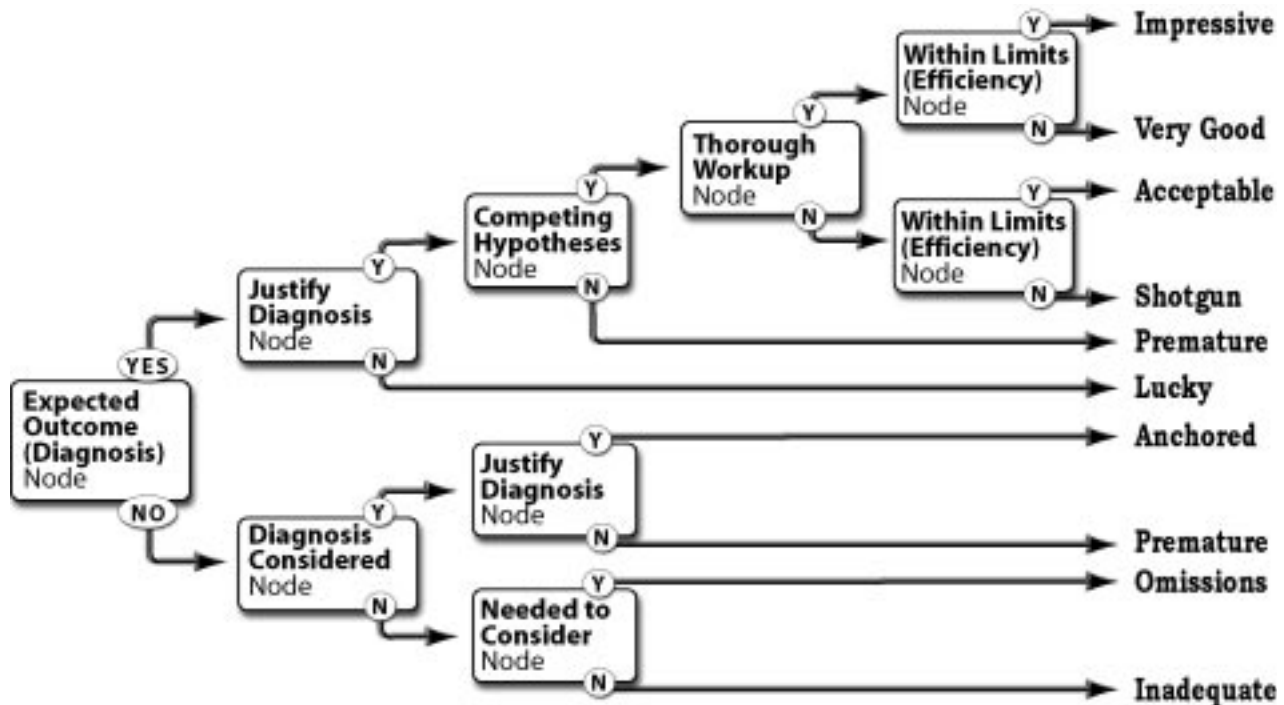
EVALUATION DATA

The evaluation section encompasses information necessary for student records to be evaluated within the Record Utility. To understand the importance of the information included in this section, please refer to your Instructor Manual for a description of "How Diagnostic Reasoning Evaluates Student Performance," pages 20-26.

Evaluation Paradigm

The decision tree used by DxR when evaluating a student record is shown below. Briefly, the evaluation at each branch point or node is determined by items preselected by the case author or modified by local faculty. The Expected Outcome node contains a description of the diagnosis. The other nodes contain items from the database including history questions, physical exams, lab tests, or treatments (management). If a student has entered or selected all of the items contained in a scoring node, then the evaluation proceeds "up" the paradigm to the next nodal point. Failure to select all the items at a branch point results in movement "down" the branches of the decision tree to one of ten descriptions of performance.

Space is provide on the following pages to enter the **Expected Outcome** and all the criteria for the **Diagnosis Considered**, **Justified Diagnosis**, **Competing Hypotheses**, and **Thorough Workup** nodes.



DIAGNOSIS (EXPECTED OUTCOME)

Text should be entered constituting a discussion of the diagnosis as it pertains to the patient and or populations as a whole. You may want to include essential points within the case that should have led the student to the correct diagnosis. Some authors may choose to include in the discussion text specific information on how their patient was managed. This text is referred to as the Author's discussion text.

Diagnosis Parts

Because some diagnoses can be very complex, the DxR template is designed to allow you to enter up to five different parts to your complete diagnosis. Included in each part would be all the synonyms or equivalents that the student might enter for the diagnosis, each entered on a separate line (see example). You should also indicate which part or parts are **Required** for the student to be scored with the correct diagnosis. At least one part of your diagnosis must be marked as "Required." All Ancillary diagnoses are evaluated in the Thorough category.

PART 1 (EXAMPLE)

COPD
Chronic obstructive pulmonary disease
obstructive pulmonary disease
chronic obstructive lung disease
chronic bronchitis
respiratory insufficiency
respiratory failure
emphysema

On the pages that follow, we've provided space for you to write the text for up to five parts of your diagnosis. Fill in as many parts as you deem necessary. Remember to designate at least one part of the expected outcome as "Required."

Part 1

<input type="checkbox"/> Required
--

Part 2

<input type="checkbox"/> Required
--

Part 3

<input type="checkbox"/> Required
--

Part 4

Required

Part 5

Required

NODAL POINT DATA

During the evaluation of a student's performance, the computer searches the student record for each criteria item. The student must have included all the criteria items at each nodal point to move up the decision tree toward a higher level of performance.

On the next four pages, enter the evaluation criteria for your case. *If the same information can be gathered by students from several different items in the case, each item should be listed on the same line separated by commas. These are termed equivalent items.* For example

Blood Sugar, Glucose, Fasting Blood Sugar

all refer to blood sugar or glucose. Listing more than one item on the same line, separated by commas, tells the program that any of these three answers is equally acceptable, and only one need be present in the student investigation for the student to receive credit for that criteria item. All criteria lines from a given nodal point must be found in the student record for the student to get credit for the nodal point.

In some cases it may be desirable to list together several items, such as heart sounds from each of the four listening areas, on one line at a lower level, e.g., the "Justify Diagnosis" node, and then list each item on separate lines at a higher level such as the "Thorough Workup" node to require a more complete workup.

Consider Diagnosis Node

"Were there sufficient clues available to enable the student to consider the correct diagnosis?"

This nodal point subdivides those who neither came to the correct diagnosis nor even thought of it. Information entered at this point should be data from the history, physical or lab which should clearly lead an investigator to entertain the expected outcome as a diagnostic hypothesis. The list is not exhaustive but should contain those fundamental items which, when considered together, point to the correct outcome. A person who did not select the items at this nodal point could not be expected to have thought of the correct hypothesis. His/her problem is therefore an inability to frame the problem and is usually associated with a cognitive knowledge deficit.

On the other hand, a student who had access to enough clues but failed to even think of the correct hypothesis is likely to have different problems. If the available clues were correctly interpreted (as discovered by a reading of students' free-text responses to key items) then the error is probably secondary to ignorance of the disease process and/or a processing error (omission, inadequate synthesis, wrong synthesis). If the available clues were incorrectly interpreted, then the problem is probably a cognitive knowledge deficit and/or a lack of competence with respect to specific performance objectives e.g. interpreting heart sounds.

Justify Diagnosis Node

"Did the student include all questions, physical exams, and lab data necessary to justifiably arrive at the correct diagnosis?"

This nodal point should contain data that would allow a problem-solver to come to the expected outcome. These questions, physical exams, and lab data should represent the minimum amount of information necessary to make the correct diagnosis. That is, if a student had selected only those questions, physical exams, and lab data entered at this nodal point, he or she could have justifiably made the correct diagnosis. This is not the point where the ideal workup is stated. The consequence of failing to include all the required items at this nodal point is that the student is judged to have come to the correct outcome via a "lucky guess."

Competing Hypotheses Node

"Did the student include all criteria items needed to rule out competing hypotheses?"

The paradigm works best if the criteria set for this node evaluate a student's choices in investigating the most important or most likely other hypotheses or diagnoses. If a student is expected to rule out all possibilities in a complete differential diagnosis, virtually no student would successfully pass through this filter. For example, in the case of a young boy with knee arthritis the expected outcome might have been juvenile rheumatoid arthritis; other diagnoses for consideration might well have been Lyme disease and rheumatic fever. So, criteria entered at this nodal point could reasonably include (1) a question about exposure to insects (2) a question about the presence of a rash (3) an ASO titer (4) a Lyme titer (5) a question about fever and (6) taking the boy's temperature as part of the physical exam.

Repeating, the only caution at this nodal point is to avoid being too rigorous and broad in the requirements for multiple competing hypotheses. Even the best practitioners may not seriously consider or exhaustively rule out all hypotheses in the differential diagnosis.

Thorough Workup Node

"Did the student's selections include all other criteria items that haven't been evaluated elsewhere, but which are deemed essential for a thorough work-up?"

This nodal point should contain those questions, physical examinations, laboratory studies, and ancillary diagnoses considered to be essential for an excellent workup of a particular problem. The standard for an excellent workup is usually one expected of a resident completing a primary care residency. Items entered here should include those questions, exams, labs, treatment and diagnoses which are expected and have not been previously selected at any other of the nodal points mentioned above.

DxR EFFICIENCY LIMITS

In this section, it is important for you to:

- assign limits on the numbers of Interview questions, Exams, and Labs; (Enter your chosen limits in the space marked "Student Maximum." If the student exceeds this limit in his/her investigation, it will affect the student's overall Clinical Reasoning Score.)
- set a Lab Cost Allowance, which represents a dollar amount; (Exceeding this limit will also affect the student's Clinical Reasoning Score.)
- consider whether you want to change the scoring values reflected in the Evaluation Paradigm. (Default scores are reflected below. These will appear in the Record Utility and may be edited.)

Interview Limits

Student Maximum _____

Exam Limits

Student Maximum _____

Lab Limits

Student Maximum _____

Lab Cost Allowance

\$ _____

Paradigm Values

Expected Outcome Node	Default =10 pts.	_____pts.
Diagnosis Considered Node	Default =40 pts.	_____pts.
Justify Node	Default =20 pts.	_____pts.
Competing Node	Default =15 pts.	_____pts.
Thorough Node	Default =15 pts	_____pts.

CASE DELIVERY OPTIONS

The case delivery options section of DxR Clinician allows the case author to decide how the case will be delivered to the student. Read the questions below and **check all choices that apply**.

1. Would you like students to associate each selection with a hypothesis?

Yes

No

2. Would you like the students to review and adjust their hypothesis lists at the end of the

Interview section?

Exam section?

Lab section?

3. You also need to determine whether students

will see an HPI summary, instead of the Present Illness category in the interview section.

will encounter Delayed Lab results in certain circumstances.

will be able to order multiple labs together in a group.

will be required to supply a problem list.

4. Will the student have access to the

Interview?

Exam?

Lab?

Lab normals, automatically displayed?

Management?

Evaluation?

Consultant text?

case only after typing in the Required Password?

questions about What Was Studied while away from the program?

QUERY AND QUERY MANAGEMENT (OPTIONAL)

The Query feature allows you to ask questions about a student's selection at any point in the Interview, Exam, Lab and Management portions of the case. There are three different types of questions: multiple choice, true-false and short answer. You may enter as many questions as you like. If you link the same question to more than one part of the case, the question will appear only once. The next few pages provide instructions and space to write your questions.

In order to ask a Multiple Choice question you must provide the following:

- the Question;
- five unique answers with the correct answer identified;
- links to where you want the question to appear in the case; and
- (optional) a comment to be seen by the student after they have answered the question.

In order to ask true/false questions, you must provide the following:

- the question;
- the correct answer;
- links to where you want the question to appear; and
- (optional) a comment to be seen by the student after he/she has answered the question.

In order to ask short answer questions, you must provide the following:

- the question;
- links to where you want the question to appear;
- (optional) a comment to be seen by the student after he/she has answered the question.

CREATING A NEW CASE FILE

To begin entering the data for a new DxR Clinician case, you must first navigate to the authoring tools website. Once at this web address, you will see the title screen for the DxR Case Authoring Site. Follow the steps below to begin creating a new case and entering its data.

1. Select one of the three patient types: Pediatric, Adult Female, or Adult Male.
2. On the screen that appears, type in your name and e-mail address.
3. Enter the first and last names of the patient.
4. Enter the Unit or Directory name under which you want this case filed.
5. Select a patient picture from the standard pictures in the database. Choose the picture that most resembles the patient description entered by the case author. The numbers below each picture indicate the patient age, height in inches, and weight in pounds.
6. Click Create New Patient File. It will take a few moments to create your case files.
7. A screen will appear advising you when your installation is complete. On this screen, you will receive a message advising you where you can access your new case.
8. Click the "here" link to access the DxR Management and Editing Utility in order to enter a list of usernames and passwords and to begin entering case data.

Note: *You must enter usernames and passwords before you can access the case as a student would.*

DxR MANAGEMENT

On the DxR Clinician Management and Editing Utility Index screen you can:

- access the screen where you can enter your username and password list(s);
- access the screens where you will begin entering and editing case data;
- access the screen to convert student record files for evaluation in the DxR Record Utility; or
- access the screen where you can convert patient data files for use on your server.

The first two functions (User Names and Passwords and Edit Case Data) are the functions you will use in preparing a case for faculty review and eventually student use.

If you want to enter your case data first and then enter a list of usernames and passwords, click Edit Case Data. If you want to enter your list of usernames and passwords first, click User Names/Passwords.

Follow the instructions in the Instructor's manual for editing case data and for User Names/Passwords.

TECHNICAL APPENDIX

SPECIFICATIONS FOR GRAPHICS/SOUNDS

Before graphics and sound files can be added to a DxR Clinician case, they must first be formatted to meet the following specifications.

Graphics:

Formats: .jpg (.jpeg), .gif

File Size|KB: less than 100KB(kilobytes)

File Resolution: 72ppi (pixels per inch)

File Dimensions:

Lab section: 400 pixels (w) by 400 pixels (h)

Exam section: 200 pixels (w) by 400 pixel (h)

Interview section: not recommended

Audio files:

Format: .mp3

File Size: less than 100KB

Graphics file types and sizes:

Graphics must be either .gif, or .jpg, images in order to be viewed with a web browser. For the Lab portion of the program, graphics should be no larger than 400 pixels width by 400 pixels in height and saved at a resolution of 72 pixels per inch (ppi). The size of the file (expressed in kilobytes) will have a direct effect on your students ability to use the program. A file that loads swiftly when viewed on a campus network may take ten minutes to download for a student in a distance learning program using a dial-up internet connection. Files should be kept under 100KB where possible.

Audio files and size requirements:

DxR Development uses the popular .mp3 file format for presenting audio files to users (with the assistance of the QuickTime browser plugin). As with graphics, file size is important. We use short recordings which loop, playing over and over again, rather than presenting the student with one long recording (with it's attendant large file size).

QuickTime™

The web version of Diagnostic Reasoning makes extensive use of QuickTime, and its browser plug-in. If you don't already have QuickTime™ installed, versions for both Windows™ and Macintosh® are available to download for free from this address.

Apple Computer's Quicktime site:<http://www.apple.com/quicktime>

Make certain to select the Full install, rather than the Minimal install. Note that the free QuickTime Player is adequate for use with Diagnostic Reasoning. It is not necessary to purchase the full QuickTime™ Pro package for use with our product. Pop up windows will appear from time to time, asking if you would like to upgrade to QuickTime Pro. These are merely requests and can be dismissed.