O·M·A·C
OBJECTIVE MEDICAL ASSESSMENTS

MEDICAL TEST GUIDE

CATEGORY	TEST	DESCRIPTION
AUDITORY	Audiogram	Test using sound waves of varying frequency (e.g., 500 cycles per second) up to 8000 CPS which quantifies extent and type of hearing loss.
	Otoscopic Exam	Physician uses an otoscope inserted into the ear canal to check for obstruction (e.g., wax), infection, middle ear fluid, eardrum perforations and scarring.
	Tuning Fork	The ability to hear a vibrating tuning fork may help the physician to determine if hearing loss is due to nerve damage or a middle ear problem.
BLOOD CHEMISTRY	Albumin	One of the important protein elements which make up total protein. Values may be low in cases of liver and kidney disease.
	Alkaline Phosphatase	This enzyme may be elevated in certain types of liver or bone disease (it is normally high in growing children).
	Bilirubin	Red blood cell pigment metabolized by the liver; may be high in liver disorders and certain types of anemia; gives skin yellow tint.
	Blood Chemistry Profile (SMAC)	Also known as SMAC - provides the physician with information regarding the functions of several body systems.
	BUN	Blood Urea Nitrogen; product of protein metabolism; level reflects ability of kidney to excrete the excess. If elevated, may signify kidney disease.
	Calcium	A mineral in the blood essential for bone structure; also helps regulate many other systems e.g., intestines, kidneys, heart and muscle.
	CO2	Carbon dioxide content of blood; deviation from the norm may reflect kidney or lung disorders.
	Creatinine	Waste product in blood; it is a measure of kidney function; if elevated, may signify kidney disease.
	Globulin	A protein elevated in liver disease and some immune disorders.
	Glucose	Blood sugar - elevated in diabetes mellitus; may be low in hypoglycemia.
	Hematocrit	Measures the percentage of red blood cells by volume in blood sample.
	Hemoglobin	A protein contained in red blood cells which carries oxygen; important in the diagnosis of anemias.
	LDH	A tissue enzyme which aids in the diagnosis of some anemias, liver disease, and occluded blood vessels of the heart and lungs.
	Phosphorus	Mineral in blood required for bone formation.
	Platelets	A blood element essential in the clotting mechanism.
	Red Blood Count	Reveals over or underproduction of red blood cells.
	SGOT	Enzyme found in liver cells; elevated in liver disease and may also be elevated in heart attack victims.
	SGPT	Enzyme elevated in liver disease (e.g. hepatitis, alcoholic liver, etc.)
	Sodium, Potassium, Chloride	Abnormal value may reflect disorders of the kidneys or endocrine glands, or nutritional imbalance.
	Thyroid profile (not part of SMAC)	Measures the amount of hormone produced by the thyroid gland; aids in the diagnosis of hypo or hyperthyroidism, and in monitoring response to thyroid treatment.
	Total Protein	Large particles in the blood which reflect liver function and nutritional status; may also aid in diagnosis of blood, kidney, gastrointestinal disorders and protein deficincies.
	Uric Acid	Elevated in gout, may also cause kidney stones.
	White Blood Count (WBC)	Measures the number of white cells. WBC is elevated during infection, inflammation, burns and leukemia. Low WBC indicates bone marrow depression - it may be present with some viruses, toxic reactions, German Measles, infectious hepatitis and other diseases.
	White Blood Count Differential	Gives more specific information about the immune system, allergic diseases, reactions to parasites and various types of leukemia.

CARDIO-VASCULAR	**Blood Pressure**	If elevated, greater incidence of stroke, heart attack (normal is under 140/90); systolic (top number) / diastolic (bottom number).
	Cholesterol, HDL, LDL, Triglycerides	Fatty substances in the blood. The ratio of these values to each other is what determines the risk of coronary heart disease.
	Echocardiogram	Test of the heart using sound waves; may illustrate faulty heart valves, enlarged or thickened heart muscle. Usually done in conjunction with stress test.
	Electrocardiogram	Indicates current status of the heart, may show enlargement, rhythm abnormalities, electrical conduction defects or strain; possible signs of impaired blood supply or evidence of previous heart attack.
	Stress Test	Exercise EKG which may reveal signs of hidden heart disease or confirm cause of cardiac symptoms. See Echocardiogram
CARDIO-VASCULAR & PULMONARY	**Chest X-Ray**	May show infection (e.g., pneumomnia), TB, emphysema, occupational exposures (e.g., asbestos), lung tumors; heart enlargement, arteriosclerosis of aorta (major blood vessel).
GASTRO-INTESTINAL	**Barium Enema**	X-ray of entire colon (lower bowel) using barium solution which is introduced through rectum; may reveal polyps, cancer, colitis and diverticulosis.
	Colonoscopy	Direct visualization of the entire colon through a flexible scope by a specialist; requires sedation; same purpose as barium enema.
	Digital Rectal Examination	Doctor inserts a gloved finger into the rectum; used as first method of detection for rectal cancer; remains the primary method of detection of prostate cancer.
	Gallbladder Ultrasound	Use of sound waves to visualize gallstones; has replaced cholecystogram which required ingesting iodine-based dye.
	Hemoccult	Tests for hidden blood in a stool specimen; may indicate bleeding from ulcers, polyps, cancer or other diseases. Usually with digital rectal exam.
	Sigmoidoscopy	Examination to the rectum and lower colon with a special scope to detect polyps, cancer or source of bleeding.
	Upper G.I. Series	X-ray using barium solution, swallowed by patient; examines esophagus, stomach and small intestines; reveals ulcers, hiatus hernia, gastritis and stomach cancer.
KIDNEY/ BLADDER	**Urinalysis**	A commonly used screening test of the urine to detect abnormal function of the kidneys and bladder. It may also reflect infections or abnormal growths or other diseases such as diabetes.
ORTHOPAEDIC/ NEUROLOGIC	**Arthrogram**	An x-ray of a joint space after injection of a contrast medium. Findings of the test can help diagnose synovial abnormality, ligament tears, arthritis or meniscal or labral tears.
	Arthroscopy, Diagnostic and Operative	A fiberoptic, direct visual examination of the interior of a joint by an optical instrument. It is a surgical procedure to include removal of calcium deposits, scar tissue, cartilage, the meniscus or bone spurs from within the joint. Arthroscopically assisted ligament reconstruction, meniscus repair, labral repair or excision, subacromial decompression can all be done using an arthroscope.
	CT Scan (Computerized Axial Transverse Tomography)	A technique that uses a special scanner and computer to produce cross-sectional images. These "slices", when looked at in sequence, enable a radiologist to create a three-dimensional image. The primary purpose for the use of CT scans is to picture the structure and characteristics of tissue within solid organs. This is an x-ray study.
	Electromyogram (EMG)	The EMG test provides one of the best means of diagnosing myopathies and neuropathies. The test is used to detect and measure electrical discharge originating in a skeletal muscle. Thin needles monitor and record electrical discharge. Tests may indicate neuromuscular abnormality.
	MRI (Magnetic Resonance Imaging)	MRI can be used in place of x-ray, CT scans and ultrasound to diagnose injury or disease. Magnetic forces are used to stir up atoms, which emit radio waves that, when picked up by MRI computers, produce pictures of the specific parts being studied. MRI scans are especially helpful in diagnosing soft tissue injury or disease. Better for some soft tissue diagnosis, e.g. herniated discs.
	Myelogram	A fluoroscopic and radiologic examination of the spinal canal, specifically the subarachnoid space. A contrast medium is injected into the cervical or lumbar area and outlines the spinal cord and nerve roots. It is used to diagnose ruptured intravertebral discs, nerve root compression or when posterior fossa neural structures are suspected. Used less frequently as an isolated test, but often in conjunction with MRI and CT.
	Nerve Conduction Velocity Testing (NCV)	Often used in suspected cases of peripheral nerve disorders as well as for certain endocrine disorders that affect nerve function. A NCV study traces a nerve impulse from one site to another and determines actual electrical conduction in the nerve.
	Ultrasound	A procedure which uses sound waves of extremely high frequency to examine internal structures within the body without submitting the patient to potentially harmful radiation or open surgical procedures.
	X-Ray	One of the oldest diagnostic modalities. A technique of examining the body by directing x-rays through the body to produce images on photographic plates. X-rays are typically used for the initial screening diagnosis of bone trauma, disease or chest abnormalities.

PULMONARY	**Pulmonary Function**	Measures lung function, abnormal in asthma, chronic bronchitis, emphysema, occupational exposures, (asbestos, chemicals, dusts).
VISION	**Opthalmoscopic Exam**	Doctor uses opthalmoscope to look directly into the eye, evaluating the lens (for cataracts), optic nerve, retina, blood vessels. May reveal changes of high blood pressure, diabetes, glaucoma, and many other diseases.
	Tonometry (Glaucoma)	Measures pressure in the eyeball to detect glaucoma; methods include screening with "air puff" machines or direct measurement with tonometer on the surface of the eye.
	Visual Acuity (Orthorater Machine and/or Snellen Chart are often used)	Measures for farsightedness, nearsightedness, and may indicate other causes of diminished vision (e.g., cataracts, glaucoma).