

**PARAMETERS COMMONLY USED TO EVALUATE EFFECTIVENESS AND/OR SAFETY OF DRUG THERAPY**

PARAMETER	GOALS OF THERAPY (NORMAL VALUES)	CLINICAL USE
Blood pressure	Goals of therapy include: systolic blood pressure of <b>110-140 mmHg</b> diastolic blood pressure of <b>75-85 mmHg</b> <b>&lt;130/80</b> with diabetes or kidney disease	Used to evaluate effectiveness and safety of antihypertensive drug therapies such as diuretics, beta blockers, ACE inhibitors, angiotensin II receptors blockers, aldosterone antagonists, calcium blockers.
Total Cholesterol	Goal of therapy <b>&lt; 200 mg/dl</b> (SI < 5.17 mmol/L)	Represents all of the different kinds of cholesterol in the blood and includes high-density lipids (HDL), low-density lipids (LDL), and triglycerides (TG).
LDL Low-density lipoprotein	Goal of therapy varies depending on other risk factors including cigarette smoking, hypertension, HDL<40mg/dl, family history of CHD and male>45 or female>55. • without other risk factors <b>&lt;160 mg/dl</b> (SI <4.1 mmol/L) • with 2 risk factors <b>&lt;130 mg/dl</b> (SI <3.4 mmol/L) • with CHD and ≥2 risk factors <b>&lt;100 mg/dl</b> (SI <2.6 mmol/L) Optional high risk <b>&lt;70 mg/dl</b>	Used to evaluate the effectiveness of lipid lowering drug therapies including atorvastatin (Lipitor®), fluvastatin (Lescol®), lovastatin (Mevacor®), pravastatin (Pravachol®), rosuvastatin (Crestor®), simvastatin (Zocor®) ezetimibe/simvastatin (Vytorin®) nicotinic acid (Niacin®) gemfibrozil (Lopid®), clofibrate (Atromid-S®) colestipol (Colestid®), cholestyramine (Questran®)
HDL High-density lipoprotein	Goals of therapy <b>&gt; 40 mg/dl</b> (SI >1.04 mmol/L)	HDL removes excess cholesterol from peripheral tissues and is considered "good" cholesterol. Elevated HDL levels are associated with decreased risk for coronary heart disease.
Triglycerides	<b>&lt;160 mg/dl</b> <b>&lt;1.8 mmol/L</b>	Elevated triglycerides considered an independent risk factor for coronary heart disease.
Glucose	Goal of therapy includes: preprandial blood glucose of <b>80-120 mg/dL</b> bedtime blood glucose of <b>100-140 mg/dL</b> Fasting plasma glucose of <b>&gt; 126 mg/dL</b> on two occasions is consistent with the diagnosis of diabetes mellitus	Used to evaluate drug therapy to manage hyperglycemia associated with diabetes mellitus including insulin (Humulin®) (Novolin®), glipizide (Glucotrol®), glyburide (Diabeta®) (Mircronase®), pioglitazone (Actos®), rosiglitazone (Avandia®)
HbA <sub>1c</sub> Hemoglobin A <sub>1c</sub>	Goal of therapy <b>&lt; 7%</b> Normal range 4-6%	Used to evaluate the effectiveness of glucose control in patients with diabetes. Reflects the blood glucose control over the past 2 to 3 months.
TSH Thyroid Stimulating Hormone	Goals of therapy include the reduction of TSH levels to the normal range of <b>0.3-5 µU/ml</b> (SI 0.3-5 mU/L)	Used to evaluate the effectiveness of thyroid replacement therapy to manage hypothyroidism. levothyroxine (Synthroid®). Elevated TSH levels are indicative of hypothyroidism.
INR International Normalized Ratio	Goal of therapy varies with the indication. <b>INR 2.0-3.0</b> for atrial fibrillation, deep vein thrombosis, pulmonary emboli <b>INR 2.5-3.5</b> for mechanical prosthetic values	Used to evaluate the effectiveness and safety of anticoagulant therapy. Used to determine dosage adjustments for warfarin (Coumadin®) therapy.
K <sup>+</sup> Serum Potassium	Goal of therapy is to maintain serum potassium within the normal range of <b>3.5 – 5.0 mEq/L</b> (SI 3.5 – 5.0 mmol/L)	Used to evaluate and prevent cardiac toxicity associated with hypokalemia caused by diuretics, diarrhea/vomiting. Can aggravate digoxin (Lanoxin®) toxicity. Hyperkalemia associated with renal dysfunction, ACE inhibitors including captopril (Capoten®), enalapril (Vasotec®), lisinopril (Prinivil®) (Zestril®), ramipril (Altace®)
Creatinine serum creatinine (Scr) creatinine clearance (CrCl)	Creatinine normal range <b>0.6-1.3 mg/dL</b> (SI 53-115 µmol/L) Creatinine Clearance normal range <b>80-100 ml/min</b> Drug dosage adjustments often required when CrCl is <30 ml/min	Used as a guideline to determine appropriate dosage of medications which are dependent on renal function for elimination. Used to determine if drug therapy is causing nephrotoxicity or if drugs are accumulating to unsafe levels due to decreasing renal function.
ALT Alanine aminotransferase  AST Aspartate aminotransferase	Normal values <b>Males 10-40 Units/ml</b> <b>Females 8-35 Units/ml</b>  <b>Males 20-40 Units/ml</b> <b>Females 15-30 Units/ml</b>	Used to evaluate liver damage caused by medications such as simvastatin (Zocor®), pravastatin, lovastatin (Mevacor®), atorvastatin (Lipitor®) (Pravachol®), fluvastatin (Lescol®), rosuvastatin (Crestor®), simvastatin (Zocor®), carbamazepine, phenytoin, acetaminophen  If elevated 2-3 times drug-induced hepatic damage suspected