Lab Values

Total Cholesterol

☺ <200 | 😐 200-240 mg/dL | ☹ >240

LDL Cholesterol

L for low

☺ <100 | 😐 100-190 | ☹ >190

HDL Cholesterol

H for high

☹ <40 | 😐 50 | ☺ >60

Triglycerides

☺ <150 | 😐 150-199 Borderline | 😐 200-499 High | ☹ >500

Glucose

😐 Fasting 70-100 | ☺ Safe to Exercise 100-250 mg/DL | ☹ >250

Hb1ac

☹ | ☺ 4.0-5.6% | ☹

High Hb1ac indicates a high risk for diabetes, or poorly-managed diabetes.

pO2

☹ | ☺ 70-100 mmHg | ☹

Low pO2 levels due to decreased oxygen levels in the inhaled air, anemia, heart decompensation, COPD, restrictive pulmonary disease, hypoventilation

High pO2 levels due to increased oxygen levels in the inhaled air or polycythemia

O2 sat

☹ | 😐 | ☺ 96-100%

LowO2 sat levels due to decreased oxygen levels in the inhaled air, airway obstruction, alveolar lung diseases

High O2 sat levels due to increased oxygen levels in the inhaled air or deep or rapid breathing

No Exercise If...

Hematocrit

☹ <24% | 😐 24-30% | 😐 30% | ☺ >30%

No exercise | Very reduced exercise | Reduced exercise

Low hematocrit levels can be a sign of hemorrhage, anemia, destruction of red blood cells, malnutrition, over hydration, low blood oxygen levels, pulmonary fibrosis, and congenital heart disease, among others.

Hemoglobin

☹ <24% | 😐 24-30% | 😐 30% | ☺ >30%

No exercise | Very reduced exercise | Reduced exercise

Low hemoglobin is due to any condition that causes low red blood cells.

Platelets

☹ <5000/mL | 😐 <20,000/mL | 😐 <5000/mL | ☺ >60,000

No activity | AROM, gait | No resistive exercise

Low platelets levels are due to any condition that causes bone marrow problems or platelet destruction.

WBCs

☹ <500/mcL | ☺ >500

Low WBCs due to chemo, radiation, HIV/AIDS, hypersplenism, leukemia, lupus, malnutrition/ vitamin deficiencies, RA, tuberculosis, other infections

INR

☺ <3 | ☹ >3

Normal is 0.8-1.1. With Coumadin INR is 2-3.
High INR indicates slow clotting time, due to anticoagulants, aspirin, NSAIDs, liver failure, bleeding disorders, low K

PTT

☺ <3x normal values | ☹ >3x normal values

Normal PTT is 30-45 sec. PTT is used to test effectiveness of Heparin. High PTT indicates slow clotting time. Due to current or recent pregnancy, hemophilia A or B, deficiency of blood clotting factors, von Willebrand disease, disseminated intravascular coagulation, hypofibrinogenemia, meds like heparin and warfarin, vitamin K deficiency and malabsorption, antibodies, lupus anticoagulants, leukemia, liver disease

pH

☹ | ☺ 7.35-7.45 | ☹

Respiratory Acidosis. Due to asthma, chest injury, chest muscle weakness, obesity, nervous system issues, sedative misuse

Metabolic Acidosis.

Diabetic acidosis due to poorly managed diabetes
Hyperchloremic acidosis due to diarrhea/vomiting
Lactic acidosis due to chronic alcohol use, heart failure, cancer, seizures, liver failure, prolonged lack of oxygen, low blood sugar, excessive exercise
Renal tubular acidosis when the kidneys are unable to excrete acids into the urine.

CO2

☹ <35 | ☺ 35-45 mmHg | ☹ >45

respiratory alkalosis | respiratory acidosis

HCO3

☹ <22 | ☺ 22-26 mEq/L | ☹ >26

metabolic acidosis | metabolic alkalosis

Alkalosis = basic
Low CO2 (an acid) = basic
~or~
High Bicarbonate (a base) = basic

1. Respiratory alkalosis - low CO2. Caused by hyperventilation, lack of O2, high altitudes, lung disease, liver disease
2. Metabolic alkalosis - high HCO2. Caused by too little acid or too much base, due to: excess vomiting, overuse of diuretics, adrenal disease, a large loss of K or Na quickly, antacids, laxatives, alcohol abuse
3. Hypochloremic alkalosis - due to low Cl; this can be due to prolonged vomiting or sweating.
4. Hypokalemic alkalosis - Hypokalemia (low K levels). Due to kidney disease, excessive sweating, and diarrhea. K is essential for function of: heart, kidneys, muscles, nervous system, digestive system