

# SARS CoV-2 Patient Lab Assays

Assay	Initial Dx	Intermediate	Severe
Total white blood cell [WBC] count	3,600–10,600/ $\mu$ L	<3,600/ $\mu$ L	<3,600/ $\mu$ L
Neutrophils [PMNs, often $\geq$ 10% pelgeroid]	1,700–7,500/ $\mu$ L	<1,700/ $\mu$ L	<1,700/ $\mu$ L + NET*
Lymphocytes [LYMPHs, often $\geq$ 10% reactive]	1,000–1,500/ $\mu$ L	<1,000/ $\mu$ L	<1,000/ $\mu$ L
Platelet [PLT] count	150–450,000/ $\mu$ L	150–450,000/ $\mu$ L	<150,000/ $\mu$ L
Hemoglobin [HGB], anemia	13.5–15/ $\mu$ L	<13.5 g/dL	<9 g/dL
<b>Coagulopathy</b>			
Prothrombin time [PT]	~17 s	~17 s	>20 s [not predictive]
Partial thromboplastin time [PTT]	>35 s	>35 s	>35 s [not predictive]
Thrombin time [TT]	<22 s	>22 s	>>22 s [Some <22s]
Fibrinogen [Fg]	>400 mg/dL	>400 mg/dL	>>400 mg/dL
D-dimer in D-dimer units [DDUs]	>240 $\eta$ g/mL	>1000 $\eta$ g/mL	>>1000 $\eta$ g/mL
D-dimer in fibrinogen equivalent units [FEUs]	>500 $\eta$ g/mL	>2000 $\eta$ g/mL	>>2000 $\eta$ g/mL
Alternative units: D-dimer in FEUs, $\mu$ g/mL	>0.5 $\mu$ g/mL	>2.0 $\mu$ g/mL	>>2.0 $\mu$ g/mL
Coagulation factor VIII [FVIII]	>150 U/mL	>150 U/mL	>150 U/mL
Anti-cardiolipin or anti- $\beta$ 2 glycoprotein antibody	Positive	Positive	Positive
Protein C, protein S, antithrombin [AT]	<70%	<70%	<70%
<b>Inflammation-Sepsis</b>			
C-reactive protein [CRP]	>820 $\mu$ g/dL	>820 $\mu$ g/dL	>>820 $\mu$ g/dL
Erythrocyte sedimentation rate [ESR]	>20 mm/h	>20 mm/h	>20 mm/h
Serum Ferritin, Male	40–400 $\eta$ g/mL	>400 $\eta$ g/mL	>>400 $\eta$ g/mL
Serum Ferritin, Female	12–100 $\eta$ g/mL	>100 $\eta$ g/mL	>>100 $\eta$ g/mL
Interleukin-6 [IL-6]	Elevated	Elevated	Elevated
Procalcitonin [PCT]	<0.5 $\mu$ g/L	>0.5 $\mu$ g/L	>>0.5 $\mu$ g/L
<b>Hepatic</b>			
Albumin	3.5–5.2 g/dL	<3.5 g/dL	<3.5 g/dL
Alanine aminotransferase [ALT]	>40 Units/L	>40 Units/L	>40 Units/L
Aspartate aminotransferase [AST]	>20 Units/L	>20 Units/L	>20 Units/L
<b>Cardiac</b>			
Creatine kinase [CK]	>200 Units/L	>200 Units/L	>200 Units/L
Troponin I	<0.5 $\mu$ g/L	>0.5 $\mu$ g/L	>>0.5 $\mu$ g/L
<b>Kidney</b>			
Blood urea nitrogen [BUN]	8–23 mg/dL	>23 mg/dL	>>23 mg/dL
Creatinine	0.6–1.2 mg/dL	>1.2 mg/dL	>>1.2 mg/dL
Blood group A risk exceeds blood group O			
*NET, neutrophil extracellular trap	>, greater than	<, less than	

Adapted from Susan LeClair, PhD, Dave McGlasson, Kirk Guyer, and Gordon Ens, personal communication. Guevara-Noriega KA, Lucar-Lopez GA, Nuñez G, et al. Review: coagulation panel in patients with SARS-CoV2 infection (COVID-19) *Ann Clin Lab Science* 2020;50:295–8; Long H, Nie L, Xiang X, et al. D-dimer and prothrombin time are the significant indicators of severe COVID-19 and poor prognosis. *Biomed Res Int* Jun 6;2020:6159720. doi: 10.1155/2020/6159720 accessed 7-8-20; and Keohane EM, Otto CN, Walenga JM. Rodak's Hematology, Clinical Principles and Application, 6th Edition, 2020; Favaloro EJ, Thachil J. Reporting of D-dimer data in COVID-19: some confusion and potential for misinformation. *Clin Chem Lab Med* 2020;58:1191–9; Nazarullah A, Liang C, Villarreal A, et al. Peripheral blood examination findings in SARS-CoV-2 infection. *AJCP* 2020, pre-publication.