Recommended Laboratory Studies

Blood	Frequency	Comment
Blood culture*		Obtain prior to antibiotics when possible, but do not delay antibiotic administration
ABG, VBG, lactic acid and ionized calcium	Q 2hr, prn	If no arterial line, draw VBG from CVL
Central venous oxyhemoglobin saturation	Q 2hr, prn	Preferentially drawn from CVL with tip at SVC/RA junction (results from femoral lines may be less reliable, trends are useful). May be obtained via co-oximetry or on a venous blood gas sent to central lab. Oxyhemoglobin saturation obtained via central lab blood gas analysis is measured, not calculated, however, it is a calculated value when obtained via iStat. Oxyhemoglobin fraction is obtained via the co-oximetry test. The blood gas oxyhemoglobin saturation and co-oximetry oxyhemoglobin fraction have the same value in the absence of dyshemoglobinemia. Thus, in most cases, if a venous blood gas is clinically indicated and sent to the lab, sending a co-oximetry test in addition to measure oxyhemoglobin saturation is not necessary.
POC glucose	Q 2hr	If not checking glucose via blood gas

CBC, differential	Q 12hr, prn	If not checking glucose via blood gas
PT/INR/PTT, fibrinogen	Q 12hr, prn	
BMP	Q 12hr, prn	
Mg	Q 12hr, prn	
Phos	Q 12hr, prn	
Amylase, lipase	Q 24hr, prn	
Hepatic function panel	Q 24hr, prn	
CRP	Q 24hr	
Procalcitonin	Q 24hr	Optional test
Type and Screen	Q 72hr	
Cortisol	Random	Send if risk of adrenal insufficiency • Catecholamine resistant shock • Purpura fulminans • Congenital adrenal hyperplasia • Prolonged steroid treatment (> 2 weeks)
Urine		
Urinalysis, culture		
Urine HCG	once	All females ≥ 12 years, and females < 12 years that have experienced menarche
Other		
Respiratory Gram Stain, culture		If ETT, tracheostomy
Respiratory PCR Panel		If URI symptoms, signs

Enteroviral Studies		June – October PCR of blood, urine and CSF (if obtained)
Stool culture, routine		As clinically indicated if hospitalized < 48 hours
CSF profile, gram stain, culture		As clinically indicated
Mycoplasma PCR		Consider if pneumonia present PCR from blood, naso pharyngeal aspirate
Rocky Mountain PCR		Consider if petechial/purpuric rash, hyponatremia, low platelets, PCR blood

*Blood cultures are ideally drawn prior to antibiotic administration. While blood culture is currently the gold standard for blood stream infection, sensitivity is greatly affected by collection site and technique, number of cultures, volume of blood drawn, and interpretation of results (timing and pathogen).

Buttery, Arch Dis Child Fetal Neonatal Ed 2002; 87:F25-F28.

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