



LEGACY  
LABORATORY  
SERVICES

## Therapeutic Drug Monitoring (TDM) Guidelines for Legacy Children's Services

- When drawing levels on a given dose, document the exact medication administration time on the Medication Administration Record (MAR) and document on the laboratory tube the exact time the blood sample was drawn.
- If drawing the blood sample outside of the parameters ordered, call the pharmacy or the physician before drawing the sample.
- Drug level results must be obtained before administering the next scheduled dose. Drug level labs may need to be ordered STAT for dose or interval adjustment.
- Notify pharmacy/physician of out-of-range drug level results.

DRUG	INFUSION TIME	WHEN TO DRAW LEVEL	SPECIMEN TUBE/ AMOUNT
Amikacin Sulfate IV  IM	30 minutes	Peak 30 minutes after end of 30-minute infusion 30 - 60 minutes post IM injection Trough within 30 minutes before next dose  Peak IM 1 - 2 hours after injection Trough IM within 30 minutes before next dose	1.25 mL blood Plain red or lavender top tube 1 microtainer OK if filled to fill line
Caffeine	10 minutes	Peak 2 hours after dose Trough 30 minutes before next dose	1.25 mL blood (Neonatal minimum 0.2 mL) 1 Red top tube 1 microtainer OK if filled to fill line
Carbamazepine		Just before next dose	1.25 mL blood Red or mint top tube 1 microtainer OK if filled to fill line
Chloramphenicol IV  PO	30 minutes	Peak 90 minutes after end of 30-minute infusion Trough just before next dose  Peak 2 hours after PO dose	1.25 mL blood Red top tube ❖ Misc. Lab: Echart Order
Cyclosporine IV/PO	2-4 hours infusion	Just before next dose	4 mL blood Lavender top tube
Digoxin IV/PO	5-10 minutes	6 hours post dose to just before next dose (Trough level)	1.25 mL blood Red or mint top tube 1 microtainer OK if filled to fill line
Ethosuximide PO		Just before next dose	2.5 mL blood Red or green top tube 2 microtainer
Flucytosine PO		Peak 1 - 2 hours post dose after at least 4 days of therapy	1.25 mL blood Red top tube ❖ Misc. Lab: Echart Order
Fosphenytoin ( <i>measure Phenytoin levels</i> ) IV  IM	3 mg/kg/ minutes	Peak 2 hours after end of infusion  Peak 4 hours after IM	1.25 mL blood Red or mint top tube 1 microtainer OK if filled to fill line
Gentamicin IV  IM	30 minutes	<b>For Gentamicin dosing of every 12 hours or less:</b> Peak 30 minutes after end of 30-minute infusion, then draw. Trough within 30 minutes before next dose  <b>For Gentamicin dosing of greater than every 12 hours:</b> Trough within 30 minutes before administration of the dose and then draw Peak 30 minutes after the end of 30-minute infusion of the same dose  Peak IM 1 - 2 hours after injection	1.25 mL blood Red or green top tube 1 microtainer OK if filled to fill line
Phenobarbital	1mg/kg/ minutes	Just before next dose	1.25 mL blood Gold or mint top tube 1 microtainer OK if filled to fill line

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DRUG	INFUSION TIME	WHEN TO DRAW LEVEL	SPECIMEN TUBE/ AMOUNT
Phenytoin PO		Trough just before next dose	1.25 mL blood Gold or mint top tube 1 microtainer OK if filled to fill line
Theophylline IV Bolus Constant infusion PO liquid/fast release tab PO slow release	30 minutes	Peak 30 minutes after end of 30-minute infusion  16 - 24 hours after start or change in constant infusion  Peak 1 hour after dose after 1 day of therapy  Peak 4 hours after PO Trough just before next dose	1.25 mL blood Gold or mint top tube 1 microtainer OK if filled to fill line
Thiocyanate (Nitroprusside infusion)	Infusion	Nitroprusside continuous infusion	7.5 mL blood Red top tube
Tobramycin IV          IM	30 minutes	<b>For Tobramycin dosing of every 12 hours or less:</b> Peak 30 minutes after end of 30-minute infusion, then draw Trough within 30 minutes before next dose  <b>For Tobramycin dosing of greater than every 12 hours:</b> Trough within 30 minutes before administration of the dose and then draw Peak 30 minutes after the end of 30-minute infusion of the same dose  Peak IM 1 - 2 hours post injection	1.25 mL blood Gold or mint top tube 1 microtainer OK if filled to fill line
Valproic Acid PO		Trough just before next dose	1.25 mL blood Gold or mint top tube 1 microtainer OK if filled to fill line
Vancomycin	60 minutes	<b>For Vancomycin dosing of every 12 hours or less:</b> Peak 60 minutes after end of 60-minute infusion Trough within 30 minutes of next dose  <b>For Vancomycin dosing of greater than every 12 hours:</b> Peak 60 minutes after end of 60-minute infusion Trough within 30 minutes before administration of the dose	1.25 mL blood Gold or mint top tube 1 microtainer OK if filled to fill line

❖ **For Misc. Lab in Echart, perform the following steps:**

- Go to **[ORDERS]**
- Check **[OTHER]**
- Click on **[MISC. LAB ORDER]**
- Type in requested laboratory test, i.e. Chloramphenicol
- If a specific laboratory testing facility is requested, type the laboratory name in the comment section