

# Temperature Control Requirements for Home Health Nursing Agencies

Laboratory Education  
for  
Physician Office Staff

May 2013

# Temperature Control Information ONLY

PLEASE REFER TO THE *LABORATORY SERVICE MANUAL* FOR ALL QUESTIONS ON SPECIMEN COLLECTION.

If needed, please call 333-5514 for technical support

This educational material is for  
**TEMPERATURE CONTROL**  
information only.



# Importance of Temperature Control

Per our inspection agency, College of American Pathologists (CAP), MMC Lab is required to maintain proper storage and transport temperatures for all specimens from time of collection to time of analysis to ensure specimen integrity.

- **Specimen integrity (reliability)** is vital in order to have accurate results for your patients.
- This reliability must be maintained from collection through processing phases.
- Attention must be given to:
  - Temperature
  - Preservation needs
  - Special transport containers
  - Time limitations

# Nursing Agency's Challenge

- Serum must be separated from the cells to become stable.
- Normally this is accomplished in SST/yellow tubes by centrifugation, ideally within 1 hour.

Unspun specimens continue metabolism and deterioration.

# Erroneous Test Results

Many test levels are effected when blood specimens are not preserved by centrifugation.

Some of the most common are:

- Glucose
- Potassium
- Ionized calcium



# Example of Incorrect Glucose Level Due to Unpreserved Specimen

Once blood is drawn, the cells begin to metabolize glucose, decreasing the glucose level 10% per hour.

Glucose is a component in **BMP** and **CMP** panels

## Situation:

Glucose collected at 4 pm and packaged unspun. Next, the nurse sees a new admission who is quite ill. The specimen is delivered to LS Lab at 6:15 pm. Lab's 2<sup>nd</sup> shift techs are extremely busy due to a full Emergency Department. By 8 pm the specimen is received and analyzed. At time of collection the glucose was 100 mg/dL, at time of analysis the result is 60 mg/dL.

# Incorrect Potassium Level Due to Unpreserved Specimen

- **Potassium** – Cells contain 25% more potassium than serum. Due to this, cellular metabolism significantly increases false elevated levels of potassium.
- Refrigerating an unspun blood specimen further elevates false potassium levels due to additional metabolic interactions.

Potassium is a component of Electrolytes, BMP, CMP, Renal Function panels

- **Ionized Calcium** is also greatly affected.

# List of Tests Collected by MMC Lab Only

Ammonia  
Antiphospholipid Ab  
Antithrombin III, Functional (Activity),  
Chain of Custody Collection, DNA/Urine  
Cortisol, Saliva  
Cryoglobulin and Cryocrit  
Glucose, Cola 1 Hour, Preg  
Glucose Tolerance Tests  
HIV1 RNA, QN, PCR  
Homocysteine  
Lactic Acid  
Lupus Anticoagulant Evaluation  
Platelet Aggregation Study (must be scheduled)  
Protein C, Functional (Activity), Plasma

Protein C-Resistance, Activated  
Protein S, Functional (Activity), Plasma  
Semen Analysis, Fertility  
TB Gold (Quantiferon)  
Urovision (FISH)  
Vitamin A  
Vitamin B1  
Vitamin B2  
Vitamin B6  
Vitamin C  
Vitamin E (Tocopherol), Serum  
Vitamin K1  
Von Willebrand Factor Antigen, Plasma  
Von Willebrand Panel

Due to time and temperature constraints, these tests these tests require special handling.



# Suggested Guidelines for Nursing Agencies

- To ensure specimen integrity, unspun serum specimens (yellow/SST or red) must be delivered to Liberty Street Lab within 2 hours of collection.
- Store and transport unspun serum specimens at room temperature (65°–75° F)

Temperatures as high as 80° F will damage the specimen. Be sure to have a thermometer in your tote.



# Temperature Guides – A Reference Only for Home Health Environment

Due to home health nursing's inability to access centrifuges, these guides are for reference only.

Please be aware of tests collected only at MMC and those stored frozen.

Please call 333-5514 for technical assistance if you have any questions with specimen collection.



# Urine Preservation

- Effective immediately, all urinalysis and urine culture specimens are to be transferred into urine preservative tubes
- NOTE: Urine chemistries are NOT to be preserved, i.e., urine creat, urine microalbumin or urine total protein.
- Unpreserved urine must be in refrigerated temperature.

Plastic urine collection cups can be pinched to form a spout to assist in transferring urine to preservative vial.

# Record Information on the Lab Request Form

- Designate on form the number of specimens according to temperature requirements.
- If the patient's specimens require two storage temperatures, store the request form in the refrigerated bag.

**REGISTRATION for LABORATORY SERVICES**

(Lab Use) SST \_\_\_ Lav \_\_\_ Blu \_\_\_ Red \_\_\_ Gn \_\_\_ Urn \_\_\_ Micro \_\_\_ Othr \_\_\_

<b>Courier Transport Specimens</b>	Record # of Specimens	Collection Date	Phone / Ex to Dr's Name	/ Number	Ph	Ex
RT <u>1</u>	Rfg <u>2</u>	Erz _____	1 _____	/ _____	<input type="checkbox"/>	<input type="checkbox"/>
Ordering NPP / --or-- Copy of Reports to	Copy of Reports to	Collected By	2 _____	/ _____	<input type="checkbox"/>	<input type="checkbox"/>
Ordering Physician (If NPP order- enter Phys in charge)	Family Phys / PCP	Time	3 _____	/ _____	<input type="checkbox"/>	<input type="checkbox"/>
Last _____ First _____	Last _____ First _____		4 _____	/ _____	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/> Dr. Office <input type="checkbox"/> VNA <input type="checkbox"/> Other			
<b>Patient Name</b>			<b>Patient S.S. #</b>		<b>Birth Date</b>	
Last _____ First _____						
<b>Address</b>			<b>Medicare #</b>		<b>Phone</b>	
Street _____ City _____						
<b>Employer Name</b>			<b>Employer Phone</b>			
<b>Name of Insured</b>			<b>S.S.# of Insured</b>			
<b>Name of Insurance</b>			<b>Group Number</b>		<b>Policy Number</b>	

— OR — Attach a copy of the insurance card and/or patient demographic face sheet



# Specimen Bag Preparation

**REMEMBER to**  
Record correct temperature on patient's specimen bag(s).



# Attach Office Label

## REMEMBER to

- Attach Office Labels to all specimen bags.
- Record your initial on all Office Labels.

Initialing all office labels is **CRITICAL** for proper identification of the lone specimen (lab order not in bag) with the order.



# Multiple Specimen Bags

- A patient may have specimens in multiple temperatures, necessitating multiple bags.
- If more than one bag is needed, store the lab order in the refrigerated bag's outer pouch.
- Attach the large office label to all bags.

**Remember to initial all office labels!**



# Legibility is Critical

- Please be VERY diligent in CLEARLY labeling the patient's specimens.
- Legibility of the lone specimen (no form accompanying the specimen in the bag) is especially critical. Any specimen that can not be positively identified will not be processed, but entered into our "Registration Alert" process, resulting in reporting delays.
- Plain "flat" labels are available to assist in "legibility". Complete the label and attach to the specimen container.

# Transport in Correct Temperature

Proper Temperature Ranges:		Storage Location
Room Temp	(65°–75° F)	Tray on counter
Refrigerated	(32°–50°F)	Small Styrofoam box on counter

Place specimen bags in appropriate temperature storage containers when dropping off specimens at our Liberty Street secretarial area.



Thank you for completing the  
**Temperature Control Requirements for  
Home Health Nursing Agencies** educational  
module.

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