

SPECTRUM HEALTH



Specimen Collection

Centrifuge & Aliquot
(Spin & Separate)

Laboratory Services
October 2022

Agenda

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Why Centrifuge?

Centrifuging (i.e. “spinning down”) is a necessary step in preserving patient blood samples.

This separates the liquid component (serum or plasma) from the cellular components (red or white blood cells and platelets) ensuring that the target element or compound being tested (e.g. blood sugar, cholesterol, magnesium) is being measured accurately at the time of collection.



Before you begin

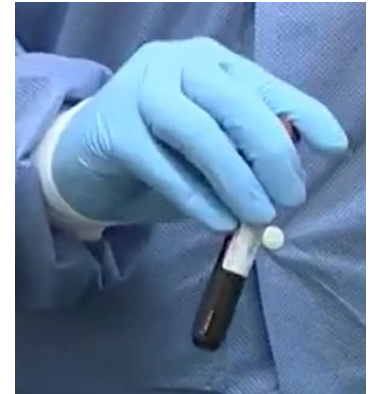
Upon collection you should invert your tubes, whether they must be spun or not.*

Holding the tubes securely, gently rock them upside down and then right-side up

8 - 10 times.

This will cause the air pocket in each tube to travel from one end of the tube to the opposite end, mixing the blood with the additives in the tube.

* Safety first: Always wear gloves for Standard Precautions



Before you begin

Gold and Red top tubes will produce a serum specimen for testing. Invert the tube 8 -10 times after collection.

These should be allowed to clot fully before centrifugation. Stand tube upright in a rack for 20 – 30 minutes before centrifuging.



Before you begin

Lt. Green and Blue top tubes, which will produce a plasma specimen, should be inverted 8 – 10 times.

These tubes can be spun immediately as they do not require clotting.



Before you begin

Most specimens that require centrifugation should be spun within 2 hours of collection* to maintain integrity, and ensure that the specimens are optimal for storage, transport and/or testing.



*This is not true of all tests. Please refer to the test you are collecting in the lab catalog for specific instructions prior to collection:

spectrumhealth.testcatalog.org

Centrifuge Instructions

Open the centrifuge

Place your specimen tube(s) in the centrifuge.

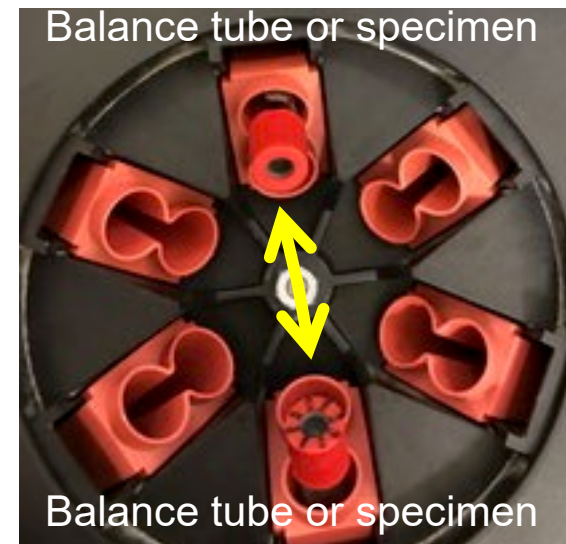
Note: Most centrifuges feature a fixed speed, otherwise adjust the speed to 3300 – 3500 rpms for adequate separation of blood components



Centrifuge Instructions

Balance each tube to be spun with the same sized tube containing an equal volume of fluid and place it exactly opposite (diagonally) each other in the centrifuge.

If you have an odd number of specimens, use a balance tube (tube filled with water) and place the balance tube on the opposite side of your specimen tube.



Centrifuge Instructions

Close and lock the lid.

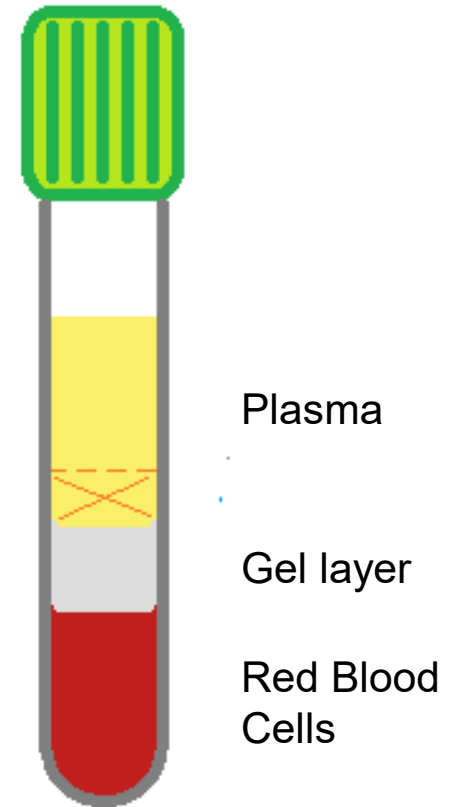
Make sure the spin time is set to 10 minutes – push start.



Centrifuge instructions

After the centrifuge has stopped.
Open it and remove the spun specimen.

Check the tubes for a clearly defined separation of serum/plasma from the cells.

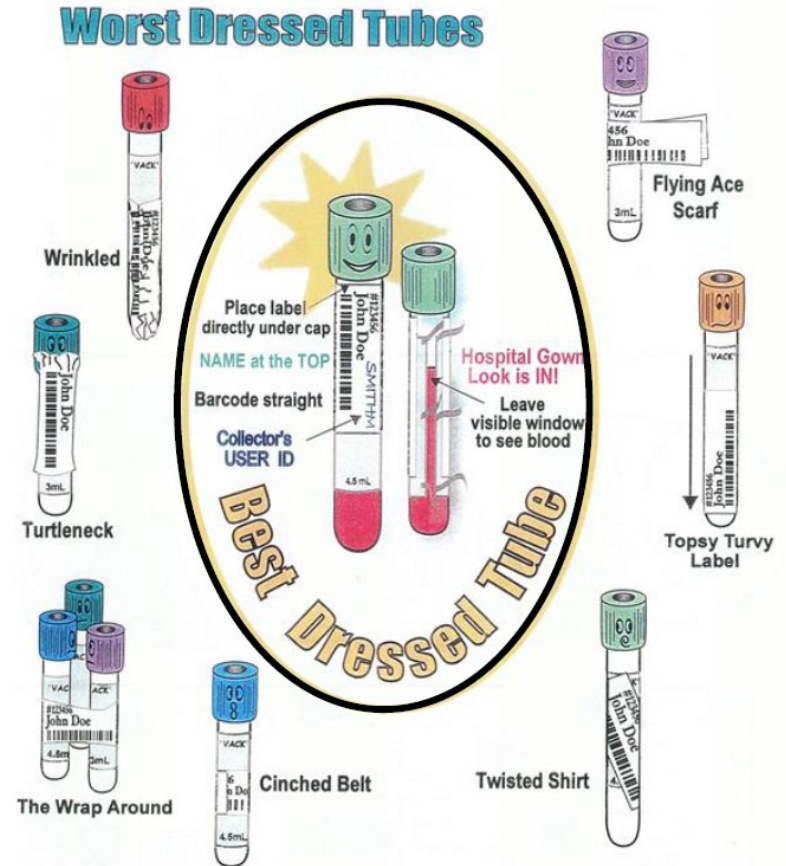


Centrifuge instructions

Label the specimen with at least 2 identifiers: Name and Date of Birth.

Place in the correct transport bag.

Place a requisition (i.e. paper orders) or a slip (green eSHare or orange EPIC) in the outside pocket of the bag.



Specimen Transport instructions

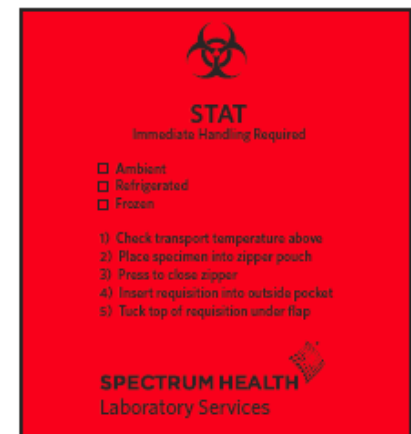
Store the specimen at the appropriate temperature in the appropriate bag.

See the lab catalog for more information on transport temperature and specimen stability:

[Spectrumhealth.testcatalog.org](https://spectrumhealth.testcatalog.org)

Hold until routine courier pick up or call for pick up, if needed:

616.774.7721



Aliquotting

Some specimens require the plasma or serum to be pipetted into an aliquot tube, while others can be poured over.

Always check the specimen requirements in the Test Catalog (spectrumhealth.testcatalog.org) to see if your specimen requires aliquotting or light protection (i.e. amber tubes).

*Safety first: Always wear gloves for Standard Precautions.



Aliquotting

After the centrifuge has stopped, open and remove the spun specimen.

Grab a sterile pipette and new clear* specimen tube.

**or amber tube if specimen needs to be protected from light*

Siphon off the plasma or serum from the top of the specimen tube and place into the tube.



Coagulation Blue Tubes

When removing plasma to send for Coagulation testing (ex. APTT or PT), it is important not to go all the way down to the cells.

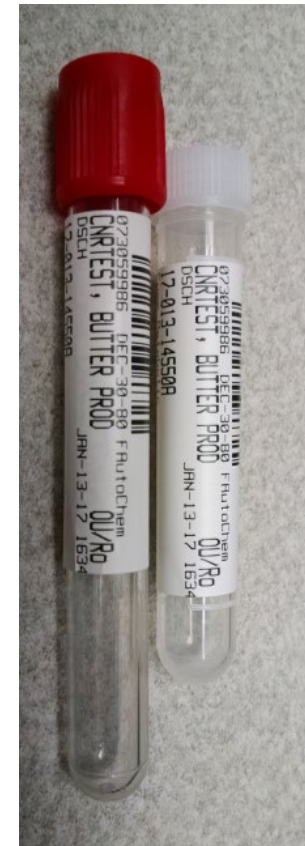
Leave a minimum $\frac{1}{4}$ inch of plasma sitting on cells.

This layer contains the platelets which were separated from the plasma during spinning. **Platelets interfere with coagulation testing.**



Aliquotting

Place cap on new tube and ensure the new tube has a label on it with at least 2 patient identifiers (Name and date of birth), ensuring that it matches the original specimen tube.

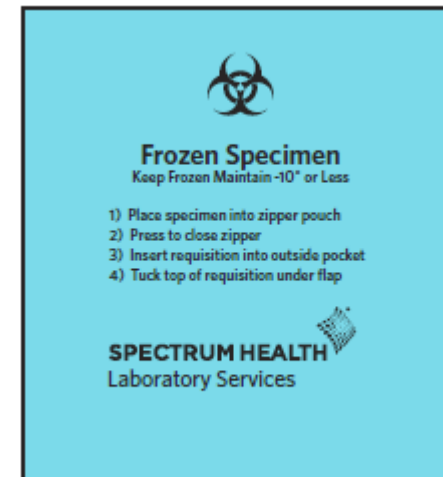


Frozen specimens

If specimen collection instructions indicate that the aliquot is to be frozen, label specimen and place it into a blue frozen bag.

Place bag in freezer immediately.

Never place a frozen specimen in a lockbox. Wait for your scheduled courier pick-up or call for a routine pick-up by a Spectrum Health courier.



Resources

To have your centrifuge serviced or repaired:

1-Help: **616.391.4357** (-13457, internally)

Resources

Spectrum Health Regional Laboratory

Phone: **616.774.7721**

Fax: **616.774.5159**

Email: **LaboratoryServices@spectrumhealth.org**

Test Directory and Collection Instructions:

spectrumhealth.testcatalog.org

Laboratory News & Updates: **lab.spectrumhealth.org**

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