Preparation of Platelet Poor Plasma (PPP) Samples for Special Coagulation

Presenter:
Christopher Desens, MLS(ASCP)
Education Specialist, Special Coagulation

Department of Laboratory Medicine and Pathology
at Mayo Clinic, Rochester, Minnesota
Disclosures

• None

Utilization Message

• As you view this presentation, consider the following important points regarding testing:
  • How is the test going to be used in your practice?
  • When should the tests be used?
  • How will results impact patient management?
Evaluate Specimen

- Before Centrifugation
  - Proper fill – Sodium citrate tubes must be at least 90% filled

Centrifuge Tubes

- Balance and centrifuge tubes
- Carefully remove and rack tubes
The Sodium Citrate Specimen

Evaluate Specimen

- Before Centrifugation
  - Proper fill – Sodium citrate tubes must be at least 90% filled
- After Centrifugation
  - Hematocrit
  - Hemolysis
Hematocrit

- Hematocrits <25%
  - Plasma will be prone to clotting
  - Falsely lower clotting time result
- Hematocrits >55%
  - Falsely longer clotting time results
Hemolysis

- Traumatic venipuncture
  - Risk for a clotted sample

Removing Plasma

- Being careful to not disturb cell layers, transfer the top ¾ of plasma into labeled plastic tubs using a plastic transfer pipette.
- Never pour off plasma!
Removing Plasma

Start from the top, gently draw specimen into pipette as you go further down tube.
Removing Plasma

Check for Clots

- Pour residual plasma and cells onto gauze and observe for clots.
Check for Clots

2nd Spin

- Plasma just taken off cells goes back into the centrifuge for a 2nd spin.
HOT TOPIC / Preparation of Platelet Poor Plasma (PPP) Samples for Special Coagulation

2\textsuperscript{nd} Spin

- Balance and centrifuge tubes
- Carefully remove and rack tubes

Transfer Plasma to Aliquot Tubes

- Start from the top of the 2\textsuperscript{nd} spin tube, gently draw specimen into pipette as you go further down tube
HOT TOPIC / Preparation of Platelet Poor Plasma (PPP) Samples for Special Coagulation

Transfer Plasma to Aliquot Tubes

- Remove plasma without disturbing the bottom 0.5 mL

Specimen Storage

- Promptly freeze your specimens when you are done processing
Conclusion

- Risk factors for clotted specimens (pre-processing)
  - Traumatic venipuncture
    - Hemolysis
  - Coag tubes drawn out of order (after a tube with a procoagulant)
  - No mixing or too vigorous mixing of draw tubes
  - Low Hematocrit (<25%)
  - Patient in hypercoagulable state

- Risk factors for clotted specimens (processing)
  - Centrifugation: too slow, too short, not balance
  - Removing plasma
    - Pouring off instead of pipetting
    - Rough handling
    - Pipetting too far
  - Clots in primary specimen
  - Not performing 2nd spin
Questions or requests…
Email to: MMLHotTopics@mayo.edu
For more information…
Visit MayoMedicalLaboratories.com
or call Mayo Laboratory Inquiry at 800-533-1710