Access to human blood for research: A pilot service of the “McLendon Labs Blood Archive”

By Margaret L Gulley MD, 6-6-18

Nearly all residual blood specimens are discarded within 3 days after “clinical tests are complete” at UNC Hospitals McLendon Clinical Laboratories (abbreviated “Clinical Lab”). A pilot program is in place to save leftover blood specimens for IRB-approved research by UNC investigators. The goal of this program is to minimize impact to patients and to Lab personnel, while improving resources for translational research.

Interested investigators should contact Dr Gulley to formulate a plan for accessing residual blood specimens or derivatives thereof. First, each investigator describes the types of specimens sought, so that Dr. Gulley and affiliated “McLendon Labs Blood Archive” Staff (abbreviated “Staff”) may determine if we can satisfy requirements. Note that the investigator must confirm that the IRB permits use of residual clinical specimens for the research (potentially without consent), which implies that appropriate precautions are in place (e.g. protect privacy, low risk to subject).

Which bloods are banked in the “McLendon Labs Blood Archive”? Whole blood, serum or plasma with leftover volume of >1mL is generally considered retrievable once “clinical tests are complete”, which signifies that all medical tests ordered on that specimen have been completed and reported to the medical record. These specimens are identified by Staff who review clinical records to find specimens meeting requirements of the investigator.

How is blood stored or processed in the “McLendon Labs Blood Archive”? Honest brokers among the Staff may manipulate specimens in an investigator-defined manner, such as: 1) process blood to enrich plasma, buffy coat, or other derivatives, 2) relabel with linked numbers, 3) store specimens for batch transfer to the investigator.

Examples of criteria for selecting specimens:
- Cytomegalovirus-positive plasma specimens
- Blood at pre-op and serial post-op timepoints around oral cancer resection
- Serum from patients seen in kidney transplant clinic
- Buffy coat of children with active myeloid leukemia
- Blood from healthy adults

Annotated clinical information
Optimal utility for research requires that certain clinical data and laboratory processing/storage information is provided to the investigator, along with the specimen. Specimens are thus annotated with pertinent clinical information (harvested from clinical records by honest broker Staff) and laboratory data (e.g. delay between time of collection and time of processing, pre-analytic storage conditions). The investigator provides a copy of the IRB application so that Staff may confirm regulatory compliance before specimens and pertinent annotations are transferred to the investigator.

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