

6. Specimen Documentation and Transportation

A. Fundamentals of Documentation

1. All health care facilities have methods of documenting patient information.
2. The medical record is the definitive legal document of the patient's care.
3. Documentation is critical for the following reasons:
 - a. Document quality of care
 - b. Plan coordination of patient care
 - c. Required for accrediting and licensing organizations.
 - d. Ensures quality monitoring
 - e. Useful for peer review
 - f. Legal protection
 - g. Research in teaching institutions
4. General guidelines
 - a. Accuracy recording facts, not opinions or assumptions
 - b. Complete documentation of routine observations as well as problems
 - c. Written in an objective manner
 - d. Document as soon as possible
 - e. Use blue or black ink, **NEVER** use pencil.

B. Laboratory Communication Network

1. Purpose of clinical laboratory
 - a. Acquisition of appropriate specimen for test ordered.
 - b. Accurate analysis of the specimens.
 - c. Timely delivery of results to the doctor.
2. Number of people and steps involved in the communication cycle varies with the size and type of institution and type of lab within the institution.
 - a. With each additional step or person, more potential courses of error are created.
 - b. It is the responsibility of the lab to be involved and concerned with **all** parts of the cycle, not just running the tests.
 - c. Two phases in performance of laboratory testing:
 - 1) **pre-analytical** - involves all issues from test request to processing sample
 - 2) **analytical** is the actual testing and reporting of results
3. In developing the cycle the lab must address *pre-analytical variables* such as
 - a. patient variables
 - b. transportation variables
 - c. specimen processing variables
 - d. specimen variables.

C. Intralaboratory Communication Network:

1. ***Policy and procedure manuals*** cover technical, administrative and safety/infection control guidelines for the institution.
 - a. Well written manual removes the need to remake decisions, are usually written in consultation with lab employees, must comply with the institution policies and must be approved by the lab director.
 - b. Procedure manuals provide information relevant to a given situation, event, problem, or protocol to be followed and must be available to employees.

2. ***Specimen Collection Manual*** is required by accredited clinical labs and must be available to all individuals involved in blood collection. Instructions must include:
 - a. patient preparation (if any)
 - b. Type of container and sample volume required
 - c. Timing of collection
 - d. Type and amount of anticoagulant and/or preservative
 - e. Special handling or transport requirements
 - f. Labeling requirements
 - g. Additional clinical data when indicated.

3. The ***Specimen Collection Manual*** should also address special or unusual circumstances such as:
 - a. Inability to draw sample
 - b. Patient unavailable
 - c. Patient refuses to have blood drawn
 - d. Combative patient
 - e. Unidentified test request

4. Employees must be made aware of the expectations of the employer. These can be found ***in Administrative procedure manuals*** which provide important information about the following:
 - a. Job description, evaluations and discipline
 - b. Time off, attendance/punctuality, and scheduling holiday work schedule
 - c. Employee accidents
 - d. In-service
 - e. Vaccination policies
 - f. Telephone etiquette
 - g. Translation procedures
 - h. Sexual harassment
 - i. Dress code

5. ***Safety and Infection control procedure manuals*** should be distributed to all managers and made know to all personnel.
 - a. Safety manual should be present in each department.

- b. Infection control policy or manual, when well written, will assure continuity of methods, avoid shortcuts, minimize chance of errors, specimen recollections and rerun of tests and will include the following:
 - 1) Procedures for handling specimens.
 - 2) Isolation procedures.
 - 3) Handling precautions.
 - 4) Disposal policy.
 - 5) Decontamination procedures.
 - 6) Hand washing procedures.

- c. JCAHO requires annual review and documentation of *each* employee for each of the following:
 - 1) fire safety
 - 2) electrical safety
 - 3) physical safety
 - 4) internal/external disaster plans
 - 5) radiation safety
 - 6) biologic hazards
 - 7) hazard communication manual
 - 8) infection control policies

- 6. Quality control procedure manual usually pertains to diagnostic lab testing. QC procedures should be available in each area including specimen collections and include:
 - a. QC records including information about potential hazards.
 - b. Proper use, storage, handling and stability.
 - c. Expiration date
 - d. Indications for measuring precision and accuracy.

- 7. Continuing education (CE)
 - a. With the increasing complexity of laboratory medicine services, it is essential for phlebotomists to attend in-service education sessions.
 - b. CLIA requires proof of CE
 - c. Read journals, attend conventions and workshops offered at other institutions, give a CE presentation yourself.

- 8. Staff meetings improves intralaboratory communication.
 - a. Use to discuss problems, new polices/procedures and planning.
 - b. Minutes of the meeting should be taken and distributed to all, especially those unable to attend.
 - c. Can use conference calling institutions with multiple off-site locations.

- 9. Other modes of intralaboratory communications.
 - a. Bulletin boards, posters, checklists and clipboards are non-computerized methods of distributing current information.
 - b. One individual should be responsible for periodically removing old, posting new.
 - c. E-mail is an electronic type of bulletin board used in computers.
 - d. Certain notices such as non-discrimination policy, must be posted.

D. Extra laboratory Communications Network:

1. Communication with other health care professionals outside the lab is enhanced in a variety of ways.
 - a. Information bulletin or “floor book” of lab services available should be available in every patient unit, in - and out-patient.
 - b. Should contain:
 - 1) directory of lab departments
 - 2) key staff members
 - 3) location of lab
 - 4) phone numbers
 - 5) menu of lab test with normal values and TATs
 - 6) specimen required
 - c. Methods used for collection, identification, storage, preservation and transporting of specimens should be included.
 - d. Should be reviewed and updated on a regularly scheduled basis.

2. The telephone is the most frequently used method of 2 way communication.
 - a. Operation of different features
 - 1) Phlebotomist must learn how to use special features with specific phones used.
 - 2) Proper use also includes writing legible messages which should include name, time and message.

 - b. Conversational techniques and manners
 - 1) One of the most critical areas to learn.
 - 2) Problems may be caused by improper tone, wording, and not listening properly.
 - 3) *Never* say you cannot help someone, find someone who can.

 - c. Answering the phone.
 - 1) Give the name of your department **AND** your name, followed by “May I help you”.
 - 2) Prior to ending conversation make sure you have answered all questions, ask if there are additional questions.
 - 3) Say “Thank you”, if appropriate.

 - d. Notification of critical laboratory values.
 - 1) Critical or “panic” values are significantly abnormal lab results which may indicate a life threatening condition.
 - 2) Phlebotomist may be responsible for calling nurse on floor or doctor at the office or home, or paging the physician.
 - 3) **ALWAYS** document the name of the individual you gave the information to and the date/time of the call.

 - e. Tone of voice.
 - 1) Your tone will convey a message and attitude about your work.
 - 2) You represent your place of business when talking on the phone.
 - 3) Be conscious of your mood, put personal or work related problems aside and out of your tone.

3. Confidentiality

- a. Communication between patient and doctor is privileged and can't be shared with other people without patient's consent.
- b. Verbal and nonverbal (lab results, radiology, monitoring of patient, etc.) communication must be kept confidential.
- c. Exceptions must involve *legal* consultation.
- d. Phlebotomists with access to patient information must be careful *not* to disclose results or other information in a careless, casual, unnecessary fashion.
- e. Don't discuss patient's condition unless it's related to phlebotomy.
- f. Disclosure of confidentiality can lead to breach of patients rights and an invasion of privacy leading to litigation.
- g. ***Health Insurance Portability and Accountability Act (HIPPA)*** was expanded in December 2000 to protect the security and confidentiality of electronic health information. The final regulation, which takes effect April 14, 2003, will ensure strong privacy protections without interfering with Americans' access to quality health care. Visit: <http://www.hhs.gov/ocr/hipaa/> for current information on this important regulation.

4. Electronic transmission (facsimile) of printed materials.

- a. Each institution must have clear policies related to use of test request or patient information that has been faxed, which must be in compliance with HIPPA.
- b. Fax machines are an efficient, timely and cost effective way of communication.
- c. Precautions must be detailed out in procedure manual that relate to faxing official lab orders from requesting physician.

E. Computerized Communications

1. Computers have become an essential instrument in the clinical laboratory and in health care and can significantly decrease errors.
2. Functions of a laboratory computer system include:
 - a. Entering patient test requests.
 - b. Printing patient labels, collection lists and schedules.
 - c. Updating lab accession records.
 - d. Printing list of tests to be performed on patient samples.
 - e. Entering and storing results, may be manual or automatic if machine is "on line" with computer.
 - f. Sending lab results to nursing floor.
 - g. Storing results.
 - h. Sending charges to billing office.

F. Requisition Forms

1. Design may be preprinted forms manually filled in with patient information and test requests or computer generated labels with same.
 - a. Information on requisition and instruction must be explicit.
 - b. The design and format of the requisition must be carefully considered in order to:
 - 1) Minimize handwriting.
 - 2) Permit convenient handling.
 - 3) Generate inexpensive, legible copies
 - 4) Obtain all necessary information for lab testing.
2. Multi-part forms serve as both request and report forms and is the traditional format of a manual hospital laboratory system.
 - a. Should be a convenient size to be easily attached to 8½ inch paper on the patient chart.
 - b. Should be easy to transport, handle, sort, store and be cost effective.
 - c. Each department has own requisition which is divided into sections such as requested test, patient information, results, normal values, and usually color coded.
3. Computerized requisitions.
 - a. Barcoding extremely useful in preventing transcription errors.
 - 1) Series of light and dark bands representing alpha-numeric symbols.
 - 2) Placed in a series to represent patient name, identification number and test ordered.
 - 3) Bar code is scanned into computer and read by computer.
 - b. Very accurate and fast, aids in patient identification, test codes billing codes and inventory records.
 - c. Many lab instruments read the bar codes on the tube.
4. Information required on the form.
 - a. Format on each type of requisition should be the same as to where patient, doctor, collection date/time and location are written. Standardization essential for correct usage.
 - b. Must designate specific time of collection or priority, ie, STAT, ROUT, PREOP, PAT, as well as if patient is an in-or outpatient.
 - c. Addressograph may be used.
 - d. Must provide clear copies and easy detachment.
 - e. Name of institution must appear on the form.
5. Additional specifications can be added to computer labels or slips.
 - a. Specimen type, amount of specimens required.
 - b. Additional patient information such as SS number, DOB, age sex and diagnosis.
 - c. Hard copy may be used as a temporary report form or back up reporting system.

G. Transmitting the Test Request to the Laboratory.

1. Computer generated requests.
 - a. Orders are directly transmitted to the lab from requesting authority by on line interactive computer system.
 - b. Most error free means of making a request.

- c. Performs automatic checks on input, won't accept a request for test that is not in its data base.
 - d. Allows user to obtain accurate, up to date information about specimen collection process, reference values and charge fees.
2. Manual requests.
- a. Multi-part form filled out at nurses station by nurse or clerk and delivered to lab.
 - b. More subject to human error, can be lost before or after getting to lab.
 - c. Other sources of error from requisition prepared in duplicate or not at all.
 - d. Organization critical: who bills out, where does it go, sorting in the lab, keeping specimen collection log sheet..
4. Verbal test requests may be issued in cases of emergency, ie, ER, ICU, surgery.
- a. Should be documented on a standard lab form prior to collection by individual taking the order and include patient name and identification number.
 - b. After blood is collected a formal lab slip should be generated and accompany the specimen.
 - c. Document name of person calling the order in along with date and time.
 - d. ***USE COMMON SENSE.***

H. Specimen Labels and Blood Collection Lists

- 1. Specimen identification is essential.
 - a. Must be clear and accurate.
 - b. Begins immediately upon collection and continues through disposal.
 - c. Methods for labeling will vary.
- 2. Computer versus manual labeling.
 - a. Most sophisticated, accurate and efficient method is computer labels.
 - b. Orders put in at any time for a morning run, collection lists are generated prior to morning run.
 - c. Labels generated by the computer are put on specimens, phlebotomist adds date, time and initials.
 - d. Extra labels are used in lab for labeling tubes, cuvettes, and slides.
 - e. Barcodes add to organization and accuracy of specimen testing.
 - f. Manual methods are time consuming and prone to transcription errors.

I. Specimen Transportation and Delivery

- 1. Specific protocols to follow will be found in the SOP at each facility but basic handling guidelines include the following:
 - a. Leakproof plastic biohazard bag with outer pouch for paperwork
 - 1) Plastic bags are routinely used for delivering specimens.
 - 2) Usually ziplock type and leakproof.
 - 3) Provides protection of the phlebotomist from potentially pathogenic organisms during transport, especially if outside of container is contaminated.
 - 4) Has a pouch on the outside of the bag to place requisition slip to prevent contamination

- b. Glycolysis affects laboratory analytes, deliver blood samples within 30-45 minutes. Transport time may be critical for certain tests such as **blood gases** and other analytes.
 - 1) **Blood gases must be transported to lab within 10 minutes** in airtight heparinized syringe and pack in ice water to prevent decrease in loss of gases from the specimen.
 - 2) *Speed is essential even when packed in ice water as glycolysis of blood cells will interfere with certain tests: glucose, calcitonin, aldosterone, phosphorous, enzymes, ammonia, and insulin.*
 - c. Always transport specimens in a gentle manner to avoid hemolyzing the specimen.
 - d. Collection at remote sites requires individual to follow same safety guidelines as they would on-site in addition to appropriate sample storage.
2. Transporting Microspecimens
- a. Glycolysis is a process which utilizes glucose for energy.
 - b. RBCs and WBCs can cause a false decrease in blood glucose and Ph levels due glycolysis.
 - c. This can be detected after 20" at RT.
 - d. Blood gas specimens should be immersed in ice water to prevent these changes.
 - e. Ice is available on the floors or in the lab and is put in a cup to be carried on the blood collection tray.
 - f. Microspecimens should be delivered to the lab ASAP if possible.
3. Additional handling considerations:
- a. **Chilled samples** -blood gases, gastrin, ammonia, lactic acid, renin, catecholamine, parathyroid hormone, ACTH and glucagon.
 - b. **Protect from light** - bilirubin, vitamin B₁₂, carotene, folate and urine samples for porphyrin determination.
 - 1) Bilirubin is a byproduct of red cell breakdown, if excessive amounts accumulate in babies can cause brain damage.
 - 2) It is light sensitive, and falsely decreased results may be obtained when improperly transported.
 - 3) Protect from light by wrapping in foil or placing in a box.
 - c. **Warmed samples** -cold agglutinins and cryoglobulin.
 - d. Microbiology samples should be delivered to the department immediately to enhance ability to grow pathogenic organisms.
 - e. Positioning vacuum tubes after collection.
 - 1) Maintain microtainers and vacuum tubes in an upright, vertical position.
 - 2) This is done to for **two purposes**: Promote clot formation, if required and reduce possibility of hemolysis.
4. Laboratory processing.
- a. Separate serum or plasma in accordance with laboratory safety guidelines and **should be done within 2 hours of collection**, once removed it may remain at RT, be refrigerated, put in dark place or be frozen depending on analysis to be performed.
 - b. May occur on-site or at satellite labs.

- c. Processing the specimen involves delivery and, for chemistry specimens, removal of the serum or plasma.
 - 1) Phlebotomists **must** learn the processing requirements of lab specimens as many labs use phlebotomists as "lab assistants".
 - 2) Prompt collection, delivery and processing decreases TATs and improves patient care.
 - 3) If phlebotomists are involved in the processing care must be taken to use the appropriate safety devices to prevent splashing and aerosol exposure.
 - d. Procedure:
 - 1) Place specimen in centrifuge and spin for the required time. **Always** wait until centrifuge stops before opening.
 - 2) Remove specimen and label a tube with the patient name and number, place the labeled tube directly in front of the correct tube.
 - 3) If serum separators are used the specimen is poured into the labeled tube, if not, use a pipet to aspirate the serum (without contaminating it with RBCS) and transfer to the proper tube.
 - 4) Follow your SOP to determine where to deliver specimen.
 - e. Be familiar with specimen processing guidelines, especially safety.
 - f. Samples may have to be prepared for shipping to reference lab.
5. Hand delivery.
- a. Must have standards for assuring prompt delivery.
 - b. Lab may be responsible for collection and delivery of blood as well as other specimens.
 - c. Should be designated area for specimens and a log which includes: patient name, number, room number, type of specimen or tests ordered, time and initials of individual transporting.
6. Transportation department employs orderlies to move patient around the hospital.
- a. These individuals may have delivery of lab specimens as one of their duties.
 - b. Same protocol involving designated area for specimens and individual picking up specimen fills out log correctly.
 - c. Escort takes specimen to lab and logs in manually or clocks it in to document actual delivery time.
 - d. STAT or timed requisition may be delivered by other health care members: nurses, clerks.
7. Pneumatic tube systems-Very efficient, reliable method
- a. Pneumatic tube system used routinely in very large facilities to deliver all kinds of documents, medications, requests to all major hospital departments.
 - b. Some facilities have stated that lab values are affected by the pneumatic tube delivery, other report it as time saving and cost effective.
 - c. Specimens placed in ziplock bag with absorbent, pad the specimens, must have soft landing mechanism, surround the specimens with foam to decrease possibility of breakage.

8. Transportation by vehicle.
 - a. Network of tracks routed through appropriate departments and delivery to the lab, nursing station or other areas.
 - b. Careful evaluation of reliability, distance, speed, control mechanism and overall cost effectiveness must be considered.

9. Other transportation equipment.
 - a. Special transport containers should be evaluated for cost, protective ability, temperature control, sterilizing potential, appearance and labeling.
 - b. Breakage, leakage and tamper proofing must be considered.
 - c. Many specimens are sent to reference labs, standard procedure must instituted:
 - 1) Proper specimen in appropriate container with correct label.
 - 2) Protect from potential leaks and have number of CDC on label in case leakage occurs.
 - 3) Proper coolant must be provided, if necessary.
 - 4) Mechanism to verify receipt of specimen by receiving lab.

J. Reporting Mechanisms.

1. *Written reports* are the feedback mechanism for transmitting vital data from the lab to the reporting doctor.
 - a. JCAHO and CAP state that results should be confirmed, dated and accompany permanent copies that are kept in lab and on patient chart.
 - b. Should contain adequate information about patient ID, time in, time out, and be signed/initialed by lab worker.

2. Unique institutional requirements should be stated in the lab procedure manual and many include: QC limits, absolute limits and delta checks.

3. Documentation of results, actual physical recording of results.
 - a. Manually recorded.
 - b. Lab instrument printed results.
 - c. Computer generated reports.

4. Reporting result out to floor or doctor.
 - a. *Written report* which may be done manually.
 - b. *Computer report*.
 - 1) If machine is on-line, results print out on floor.
 - 2) Computer generated report hand delivered to floor or placed in patient's chart.
 - 3) Interim reports generated by computer a specified times and includes tests in progress as well as those completed.
 - 4) Cumulative report is a compilation of **all** lab results on a patient over a period of time.
 - c. *Verbal reports*.
 - 1) Written documentation of verbal reports must be done *immediately*.
 - 2) Useful for reporting STAT lab results or panic values, but must be very careful.
 - 3) All verbal reports must be followed up with a written or computer generated report.

- d. Interim reports - computer prints a report on the floor each time a test is completed and/or at designated times during the day.
- e. Cumulative reports are a compilation of all lab results on a patient over a period of time and will replace the interim reports.

K. Distribution of Results

- 1. Medical records and charts.
 - a. Manual methods.
 - 1) Results are “shingled” one upon the other in chronological order, most recent result on top.
 - 2) Lab may maintain a master card on each patient on which all results are written, card can be Xeroxed and sent to doctor. Aids in comparing previous to current results.
 - b. Computerized medical records.
 - 1) Provides daily and cumulative reports.
 - 2) In-put can be from terminal directly into patient’s chart.

L. Advanced Beneficiary Notification

- 1. Purpose
 - a. For Medicare patients, must be aware that some laboratory tests ordered may not be covered by Medicare and the patient will be responsible for paying.
 - b. All requisitions must include an **ICD 9 code** which is used to indicate patient’s disease or condition.
 - c. Must look up code in lab book to see list of tests covered (reimbursed) by Medicare for that diagnosis.
 - d. If the laboratory test IS NOT listed the patient MUST be informed that they may be responsible for payment and given the option of whether or not to have the test performed.
- 2. Basic Rules of Advance Notices Beneficiary (ABN)
 - a. A practice should not do a Blanket Notice or do an ABN before every blood draw or procedure, it should only be done if it is believed the service will not be covered.
 - b. The ABN must be done in person, in writing and not over the phone.
 - c. The patient must have the capacity to understand the notification (competency issues) and therefore, have it in their language or if English is the language to be used, must know that the patient is literate and able to hear and/or read well enough to understand the possibility of denial of payment for services.
 - d. Must use a font size of 12 or larger.