GOOD LABORATORY PRACTICES (GLP) OVERVIEW

MN ASQ MEETING - 4/11/17

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WHAT IS GLP?

▪ Good Laboratory Practices (GLP) are federal regulations established in 1978 by Congress.

▪ These regulations provide the framework for nonclinical studies that support a submission to the FDA are planned, performed, monitored, recorded, reported and archived.

▪ Represent the FDA’s minimum good scientific practices.

▪ Intended to assure the quality and integrity of the safety data submitted to the FDA.

▪ Protect the public by setting and enforcing a basic set of standards.

▪ Knowledge Check?
ORGANIZATION AND PERSONNEL

▪ Each person participating in the conduct or supervision of a nonclinical laboratory study must have the education, training, and experience to enable them to perform their assigned duties. A job description and summary of training must be maintained.

▪ Test Facility Management is responsible for:
  ▪ Designating/replacing a study director.
  ▪ Assuring there is a QAU.
  ▪ Assuring there are sufficient personnel, facilities, materials, and methodologies available, and that the personnel understand the functions they are to perform.
  ▪ Assuring that any deviations from these regulations are reported to the QAU and study director, and that corrective actions are taken and documented.
STUDY DIRECTOR

- The study director has overall responsibility for the study and represents the single point of control and assures that:
  - The protocol and GLPs are followed.
  - All data is accurately recorded, verified and transferred to the archives at the end of the study.
  - Circumstances that may affect the quality/integrity of the study are noted, corrected and documented.
- In addition, the study director is responsible for the interpretation, analysis, documentation, and reporting of the study results.
QUALITY ASSURANCE UNIT

- The QAU is responsible for monitoring each study to assure management that the facility, records, methods, etc. are in conformance to the regs.
- The QAU must be independent of the study.
- The QAU will:
  - Maintain a copy of the master schedule and all protocols.
  - Inspect studies at intervals adequate to assure integrity and determine that no deviations from the protocol or regs were made without authorization.
  - Maintain written records of each inspection and periodically report study status to the study director and management.
  - Review the final report and prepare a statement for the final report specifying the dates inspections were made.
FACILITIES

▪ Each testing facility must be of suitable size and construction for the proper conduct of nonclinical studies. This includes areas for:
  ▪ Housing animals and allowing for isolation, separation, quarantine
  ▪ Receiving/storing test and control articles
  ▪ Laboratory work
  ▪ Archives

▪ All reagents and solutions in the laboratory areas need to be labeled and outdated reagents and solutions can not be used.
EQUIPMENT

- Equipment used for nonclinical laboratory studies must be:
  - Appropriately designed to function according to the protocol.
  - Inspected, cleaned and maintained.
  - Calibrated or standardized if used for the generation, measurement, or assessment of data.
  - These actions, and any remedial action, must be documented.
STANDARD OPERATING PROCEDURES (SOPS)

- The regulations require certain SOPs be present.
- All deviation from an SOP during a study must be authorized by the study director.
- SOPs should be detailed enough to provide work direction to a trained individual.
- SOPs must be readily available.
- If one desires consistency for a given procedure, an SOP is helpful.
TEST AND CONTROL ARTICLES

- All test and control articles (TCAs) must be characterized.
- The method of synthesis of the TCAs must be documented.
- The stability of the TCAs must be determined.
  - This pertains mostly to drugs and biologics.
- If a test or control article is mixed with a carrier the uniformity, concentration and stability of the mixture must be determined.
- TCAs must be stored, distributed, and labeled in a way that protects them from contamination, damage, deterioration, or mix-ups.
The protocol is the key document for the study. It is in essence the study’s SOP.

It also is a type of “contract” between the study director, sponsor and study personnel.

The protocol must be clear, indicating the objectives and all of the methods for the study.

The protocol must be followed and any departures from it must be documented, explained, and evaluated regarding the effect on the study.

Protocols are not cast in stone. They can be amended if the need arises.
CONDUCT OF A NONCLINICAL LABORATORY STUDY

▪ The study must be conducted in accordance with the protocol.

▪ All data must be:
  ▪ Captured at the time it is generated.
  ▪ Legible and durable.
  ▪ Identified by the data taker and the date.

▪ All data changes must be:
  ▪ Clear, not obscuring the original entry.
  ▪ Identified with the reason for the change.
  ▪ Signed and dated by the person making the change.

▪ Any data that is altered, manufactured or purposely omitted is considered fraudulent.
RECORDS AND REPORTS

▪ A final report must be prepared containing all of the requirements found in the GLPs.
▪ The final report describes what was done during the course of the study and what conclusions were drawn.
▪ Completed studies must be archived.
▪ All raw data, documentation, protocols, specimens and reports must be retained.
▪ The archives need to be secure, orderly and environmentally controlled.
▪ The GLPs spell out specific retention periods dependent on the date of submission or study completion.
If a facility fails to comply with the regs and that noncompliance affects the validity of the study the FDA can disqualify the testing facility.

Disqualification serves to exclude the study in question and to exclude future studies until the facility can prove its compliance.
A study will be in compliance with GLP when:
- It follows a sound protocol
- Is conducted by qualified personnel
- Is controlled by written and understood SOPs
- Is conducted in proper and adequate facilities, using calibrated and maintained equipment
- Has fully retrievable / human readable data
- Is overseen by an independent Quality Assurance person