GOOD LABORATORY PRACTICES (GLP) OVERVIEW

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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 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.

PROTOCOL

- 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.

DISQUALIFICATION

- 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.

GLP IN A NUTSHELL

- 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