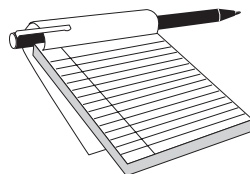


Guidelines for Maintaining Laboratory Notebooks



Why Maintain Detailed Laboratory Notebooks?

- To support the validity of results reported to peers and sponsors.
- To use as evidence for proving inventorship or first-to-invent.
- To show completion of an invention before the dates of other prior art references.

Records Should be Permanent, Complete, and Continuous

- Use a bound notebook with numbered pages.
 - A bound notebook creates a presumption that the records have not been forged or altered by replacement, deletion, or insertion of pages.
 - Include an index and a glossary defining tradenames, acronyms, codes, or laboratory jargon at the front of the notebook.
- Entries should be made consecutively.
- No pages or spaces on pages should be skipped. If blank spaces are left on a page or pages are skipped, then a line should be drawn through them to demonstrate that the blank spaces are intentional.
- Use indelible ink for entries.
 - Color coding data should be avoided.
 - Pencils should not be used.
- All entries should be completely legible.
- Do not erase. If changes must be made (errors corrected, etc.), the erroneous information should be lined through, dated, and signed. Reasons for alteration should also be noted if they are not obvious.

How Much Detail?

- Records should err on the side of thoroughness and completeness. Lab notebooks should contain enough information so that a technically sophisticated outsider will be able to understand what was done without the assistance of the person who actually made the entries.
- Record:
 - What was done (even seemingly trivial information and observations)
 - Why it was done (e.g., objectives and goals)
 - Who suggested it
 - Who did it
 - When it was done
 - What were the results (both positive and negative results)
 - What conclusions were drawn (avoid words with legal meaning such as “obvious”)
- All details of an experiment should be listed, signed, dated, and witnessed. This includes data and final results of experiments, protocols and design of experiments, calculations on which the results are based, manufacturer and model of equipment used, and a key to any abbreviations used.
- Record all research and development efforts including ideas generated during brainstorming sessions.
- Record dates when an idea was formed and when work on the idea was started and completed.
- Record plans for future experiments and their protocols.
- Test results obtained at a later date should be recorded on a separate page and cross-referenced to the page containing the earlier entry.

- Include extrinsic materials, such as raw data from recording instruments, drawings, photographs, charts, computer printouts, specification sheets, etc.
 - Permanently glue or tape these materials in the notebook, sign, and date.
 - the signature should cross both the attached material and the notebook page.

All Entries Should be Signed, Dated, and Witnessed.

- Investigators should follow a consistent procedure of promptly and accurately recording details and results of experiments and tests. Waiting a day or longer before making an entry diminishes its value.
- The person making the entry should sign and date *every* entry, not just those considered to be important.
- If the research might result in an invention, at least one person who is a non-inventor, but who is familiar with the work being conducted, should “witness” and actually *read* and *understand* the records.
 - A person who is unconnected from the invention should witness the records (do not use a technician working on the project as a witness). This prevents the problem of having a person who may later be deemed an inventor being disqualified as an impartial witness to the records.
 - The witness should sign and date every page reviewed on the date reviewed: “Witnessed and understood by _____, date _____.”

- Notebook entries should be witnessed promptly (e.g., weekly) rather than weeks or months later. The page is uncorroborated and of little value as a legal document to establish any date prior to the date the witness reads, signs, and dates the page.
- The actual “reduction to practice” (showing that an invention works) should be witnessed by a non-inventor who can understand what is occurring by having witnessed it or independently repeating the work.

Use of Electronic Records

- Legal acceptability is unclear, because:
 - Computerized records can be easily altered.
 - The existence and timing of alterations cannot necessarily be detected.
- Suggestions for authentication and reliability:
 - Print out hard copies of each record and subsequent revisions and have each signed, dated, and witnessed.
 - Glue or tape the printout permanently to a notebook or otherwise bind into a permanent volume.
 - Hard copies should be retained by an institutionally assigned archivist who can vouch for their integrity.
 - Employ an electronic recording and storage system that cannot be altered. (For example, Write Once, Read Many or WORM).
 - Periodically archive electronically recorded information with the institutional archivist who retains permanent control over the electronically recorded form of the data.

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