



National Institute of
Diabetes and Digestive
and Kidney Diseases



10-minute Refresher on Data Integrity

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National Institute of
Diabetes and Digestive
and Kidney Diseases

Costs of Data Integrity Failure

Rejection of data

Need for additional studies

Ethical issues

Reputational damage

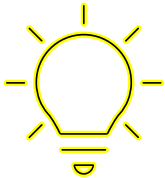
Ongoing self-data review



Plan and follow “ongoing” self-data review



Check your data against ALCOA++



Act to mitigate identified risks

(e.g. update data management plan, clarify SOP, retrain staff)

Original Data Integrity Principles

ALCOA



Attributable

Legible

Contemporaneous

Original

Accurate

Not Atttributable ☹️

~~A~~LCOA

“For the first 196 subjects enrolled in the study between 6/26/2023 and 6/30/2023, **entries in subjects’ source record forms did not include study staff initials, signatures, or any information identifying who completed the entries for protocol required activities.**”

Not Legible 😞

A~~L~~COA

“Some of the numbers written on the (histopathology) slides were no longer legible and it appeared some numbers had been wiped off and/or written over..... These slides therefore have no identification at all.”

Not Contemporaneous & Not Original 😞

ALCOA

“Gaps between assessment end time and data entry ranged from seven minutes to 25 days with no source documentation of 144 assessment values for”

FDA Warning Letter: MARCS-CMS 671405

Not Accurate 😞

ALCOA~~A~~

“For Subject X, the time for obtaining informed consent was changed from 9:55 to 9:00 with no documentation or explanation for the change. It appears that the change was made to align with the study activities times which are documented as occurring between 09:00 and 09:55.”

Attributable
Legible
Contemporaneous
Original
Accurate

ALCOA

ALCOA

+

**Complete
Consistent
Enduring**

Available when needed

ALCOA +

ALCOA

+

**Complete
Consistent
Enduring**

Available when needed

+

Traceable

ALCOA + +



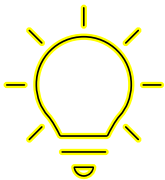
Takeaway: Protect data integrity



Plan and follow “ongoing” self-data review



Check your data against ALCOA++



Act to mitigate identified risks



References

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5. Database closure. (2023). *Journal of the Society for Clinical Data Management*, 1(1), Article 1. <https://doi.org/10.47912/jscdm.321>
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7. International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use. (2025). ICH harmonised guideline: Guideline for good clinical practice E6(R3) (Final version, adopted January 6, 2025).
8. Calder, O. (2024, September 18). *Dynamic data integrity: Why ALCOA keeps evolving*. iSpeak Blog, International Society for Pharmaceutical Engineering. <https://ispe.org/pharmaceutical-engineering/ispeak/dynamic-data-integrity-why-alcoa-keeps-evolving>

