

# SOP Writing for Clinical Research

Write down what you do, do  
what is written down!



Module 6 Topic 1\_1

# What we will cover

---

- The differences between SOPs and MOPs
- Importance, Benefits, and Limitations of SOPs
- The 8-Fold SOP Process
  - Process Mapping
  - Authoring
  - Format & Language
  - Editing
  - Authorizing
  - Training
  - Implementing
  - Revising & Archiving
- II part: An exercise on SOP making



# SOP Vs. MOP

Standard Operating Procedures

vs.

Manual of Procedures



# SOP vs.MOP

---

## **Definitions:**

- Standard Operating Procedures: Detailed, written instructions to achieve uniformity of the performance of a specific function. (ICH GCP 1.55)

## **Manual of Operations:**

- A handbook of instructions designed to guide the research team to successfully carry out aspects of a research study according to study protocol



## SOP vs.MOP

---

- Founded in federal regulations and guidance, Good Clinical Practice guidelines, and institutional policies and guidance
- General processes common to running all studies
- Infrequent changes
- Established in a grant, protocol, and/or IRB application
- Study-specific processes to gather data for one study's research aims
- Changes throughout the life of the study (updated with each new Modification)



# SOPs

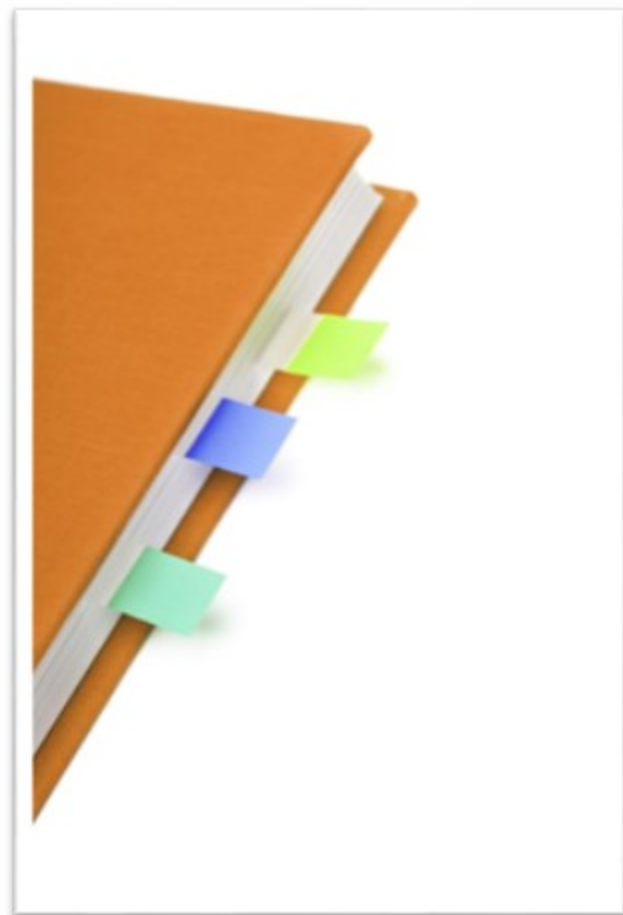
Importance Benefits Limitations



# Importance of SOPs

---

- Manage compliance obligations
- Incorporates regulations, GCPs, and institutional requirements
- Create operational efficiency
- Ensures processes have been examined and optimized
- Training staff
- Acts as a resource to keep everyone on the same page at all times



# Benefits of SOPs

---

- Creation of:
- Ensures the team knows their regulatory obligations and how to best meet them using available resources
- Implementation of:
- Standardizes common processes amongst all studies
- Provides a level of formal accountability for team members
- Prevents noncompliance on a systemic level



# Benefits of SOPs

---

- Some thoughts on SOPs in terms of investigations and audits:
  - The process of creating SOPs enhances awareness and working knowledge
  - Training staff on SOPs ensures everyone is doing things the same way
  - Should you have an investigation or audit, an SOP-trained staff should have no problems
  - Should you have an investigation and no SOPs, you could be vulnerable to findings. Results of most audits usually include recommendations or requirements to create SOPs



# Limitations of SOPs

---

They can't help you if you don't use them.



# How many SOPs are we talking?

---

- Research teams should have SOPs to cover the following topics, at minimum:
  - Recruitment and Retention of Participants
  - Informed Consent Process
  - Filing and Recordkeeping
  - IRB Review: Initial, Modification, and Continuing Review
  - Documenting, Resolving, and Reporting Protocol Deviations
  - and Violations, Adverse Events, and Unanticipated Problems
  - Study Closure
  - SOP for SOPs (aka, the 8-Fold SOP Process)



# The 8-Fold SOP Process

---

- Process Mapping
- Authoring
- Format & Language
- Editing
- Authorizing
- Training
- Implementing
- Revising & Archiving



# Step 1: Process Mapping

---

Start with the regulations, guidance, and institutional policy:

- Regulations
  - Schedule Y
    - OHRP: 45 CFR 46, and FDA: 21 CFR 50, 56, and 312
- Guidance
  - ICH GCPs
  - OHRP and FDA Guidance
- Institutional Policy



# Step 1: Process Mapping

---

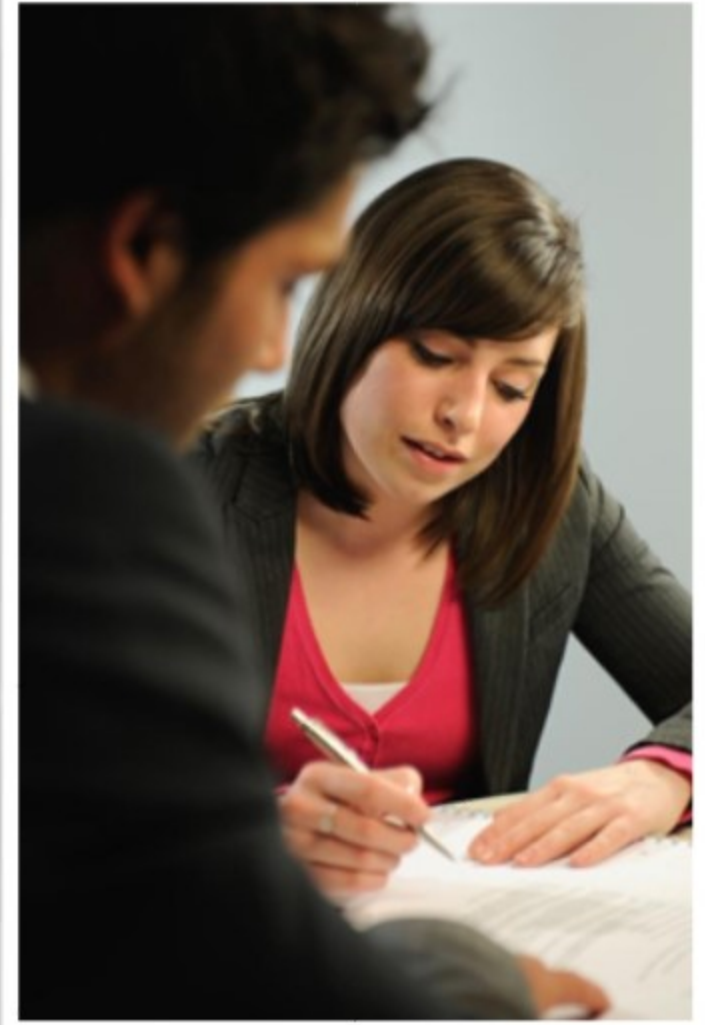
- Next, set up a meeting with everyone involved in the process
- Think about your experience with the process
- Present regulatory background and your experience at the meeting
  - Talk with the group about their experiences with the process
  - Choose the best author for the process
  - Set up a future meeting to finalize the SOP, with a draft SOP to be circulated in advance by the author



## Step 2: Authoring

---

- Who's the best person to write what you do?
  - The person who does it



# Step 3: Format & Language

- Design a template format that includes at least the following elements:
  - SOP title
  - Purpose statement
  - Policy statements, definitions, etc.
  - Steps to complete process
  - Version # and effective date
  - Author signature and date
  - Authorizer signature and date
  - References

Version #, Effective Date placeholder

<<Title>> Procedure

**PURPOSE:**  
To describe the purpose of <<insert purpose>>.

**==If applicable POLICIES/DEFINITIONS, ETC.==**  
Insert policy statements, definitions, other relevant details not part of instructions/procedures, >>

**PROCEDURE:**  
1. <<Insert step-by-step instructions using simple language and sentence structure. Feel free to insert tables, diagrams, flow charts, narratives, bulleted lists, footnotes, etc. >>

**REFERENCES:**  
<<Insert applicable international, federal, state, and/or institutional regulations, policies, and/or guidance, >>

Author name:		Date:	
Author signature:		Date:	
Authorizing Signature:		Date:	
		Replaces previous version dated:	

Page 1 of 1



## Step 3: Format & Language

---

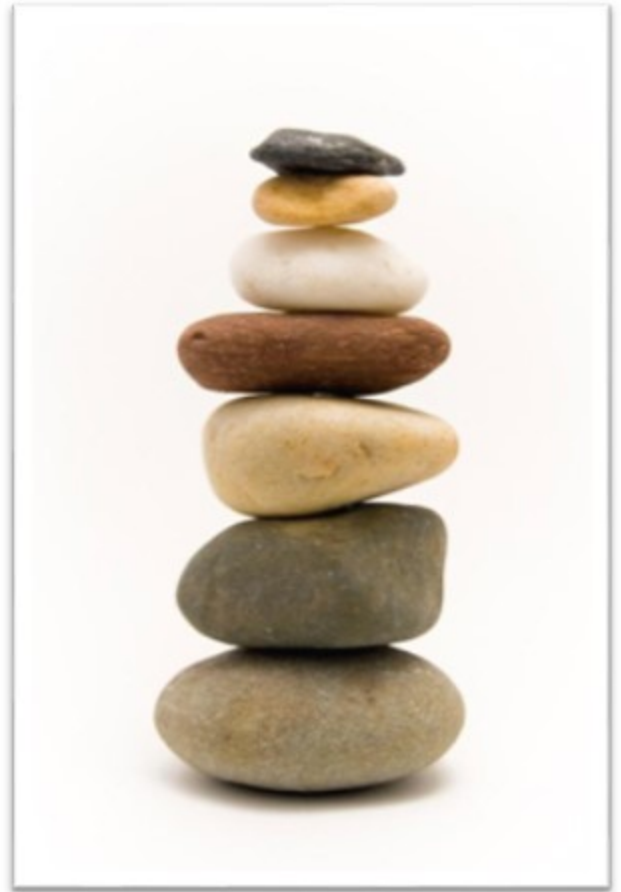
- When writing SOPs, make sure the language is clear and concise:
  - Use short, active sentences
  - Simple words
  - Instructional tone



## Step 3: Format & Language

---

- When writing, be sure to:
  - Put tasks in correct **order**
  - Use **titles**, not names
  - **Limit** number of steps per page
  - Include **timelines** for completion of tasks
  - Reference associated **forms** and **templates**



# Step 3: Format & Language

## Documenting, Resolving, and Reporting Protocol Deviations and Violations Procedure

### PURPOSE:

To describe the process of documenting, resolving, and reporting protocol deviations and violations.

### POLICY:

According to Federal regulations and IRB Good Clinical Practice guidelines, a research team should not implement any deviations from the IRB-approved research plan without documented approval from the sponsor and IRB, except when necessary to eliminate an immediate hazard to research participants. The research team should document and report any deviations from the approved research plan. If the deviation is due to eliminate an immediate hazard to research participants, research team should document and report the deviation to the sponsor, IRB, and, if applicable, regulatory authorities.

### DEFINITIONS:

The University of Maryland System's Human Subjects Division provides the following applicable definitions:

1. A protocol violation is an error or omission that occurs off-protocol, with or without the permission of the sponsor, which has a significant or potentially significant impact on a subject.

**Example:** A follow-up letter to a subject participating in a study on legal drug use is sent to the wrong address. The person who received the letter by mistake opens it. The letter clearly identifies the subject by name and the contents of the letter provides information about the subject as an illegal drug user. The subject's use of an illegal drug significantly impacts the subject in a negative way because the subject could be reported to the police for illegal drug use.

2. A protocol deviation is an error or omission that occurs off-protocol, with or without the permission of the sponsor, but has minor or no impact on a subject.

**Example:** Follow-up study was conducted 1 day prior to the "window of time" described in the protocol, but was due to the subject's inability to travel long distances during lockdown matter, but had minor or no impact on the safety of the subject.

### PROCEDURE:

1. **Identify the deviation:** If a deviation occurs outside of the IRB-approved research plan and meets one of the two above definitions, identify the event as a protocol deviation or violation.
2. **Document the deviation:** Record the event immediately in the participant's chart and in the regulatory files on the Protocol Deviation Log, including the following information:
  - a. Date of event

- b. Description of the event including location, participant(s) study ID, names of contributing factors for the event
  - c. Description of resolution of the event including the date, action taken to minimize harm (if any) to the participant(s), maintain data integrity, and prevent recurrence (e.g., changes to research procedures, consent forms, recruitment materials)
  - d. Date reported to sponsor (if applicable)
  - e. Date reported to IRB
  - f. Action required by sponsor and/or IRB (state "none" if no action required)
3. **Reporting:** Notify the sponsor of the event (if necessary) within ten working days of learning of the event. Complete the IRB's Modification Form with accompanying Supplemental Form: Report of Other Problems (document H-324) and submit to the IRB within ten working days.
- a. **NOTE:** If complete resolution of the event takes more than ten working days from learning of the event, reporting can be done prior to resolution. If reporting the event without resolution, the IRB reports the initial report, and a follow-up reports a resolution upon resolution.

### REFERENCES:

- 45 CFR 46.103(b)(6)(ii)
- 21 CFR 312.60(b)(6)
- ICH GCP 4.5.2-4.5.4
- University of Maryland System Faculty Handbook, Volume 4, Part 2, Chapter 2, Section 5.E.
- UMS Human Subjects Division Form "Report of Other Problems," document H-324
- IRB Research Resonance Protocol Deviation Log

Author name:		Date:	
Author signature:		Date:	
Authorizing signature:		Date:	
Replace previous version dated:			



# Step 3: Format & Language



Principal Investigator:					
Study Title / Number:					
Date(s) of Deviation	Deviation Description (including involved subject(s) study ID)	Deviation Resolution Description (including date of resolution)	Date Reported to Sponsor (if funded)	Date Reported to IRB	Action Required by Sponsor and/or IRB (state "none" if no action required)



## Step 4: Editing

- Who should edit the draft SOP?
  - The group who originally met
- Process:
  - Circulate the draft pre-meeting
  - Reach group consensus about the draft changes
  - Take good notes about agreed upon changes
  - Revise the draft
  - Recirculate to the group and ask for feedback by a firm date



# Step 4: Editing

- Process (con't):
  - After recirculating, incorporate feedback to **finalize SOP**
    - If necessary, **reconvene** for another meeting
  - Have another team member edit the SOP using a **Quality Assurance Checklist**

## SOP Quality Assurance Checklist

Check each box to confirm the following statements:

- ☐ The title is accurate and descriptive of the SOP.
- ☐ The purpose of the SOP is accurate.
- ☐ The version and date are accurate.
  - ☐ If a revision, these been updated.
- ☐ SOP is in active voice (not passive voice).
- ☐ Language is simple.
- ☐ Ordering of tasks make sense and includes all necessary steps to complete process.
- ☐ If appropriate, alternative formats (flow charts, diagrams, narratives, tables, bulleted lists, footnotes) are utilized effectively.
- ☐ Sources and references provided are accurate.
- ☐ Spell check is complete.
- ☐ The author signed the SOP.
- ☐ The person authorizing the SOP signed the SOP.

Name of person completing checklist: \_\_\_\_\_ Date: \_\_\_\_\_



## Step 5: Authorizing

---

- Since the **Principal Investigator** is ultimately responsible for the conduct of the study, he/she should be the one who **authorizes all SOPs**
  - The author should **sign and date** the original SOP, and so should the PI



## Step 6: Distributing

---

- **PDF** the signed original.
- Place the **hard-copy signed original** in an SOP binder.
- Keep the **electronic original** in a secure location.
- Choose a place to **post PDF SOP** for reference:
  - Internet / Intranet
  - Server
  - Email



## Step 6: Distributing

---

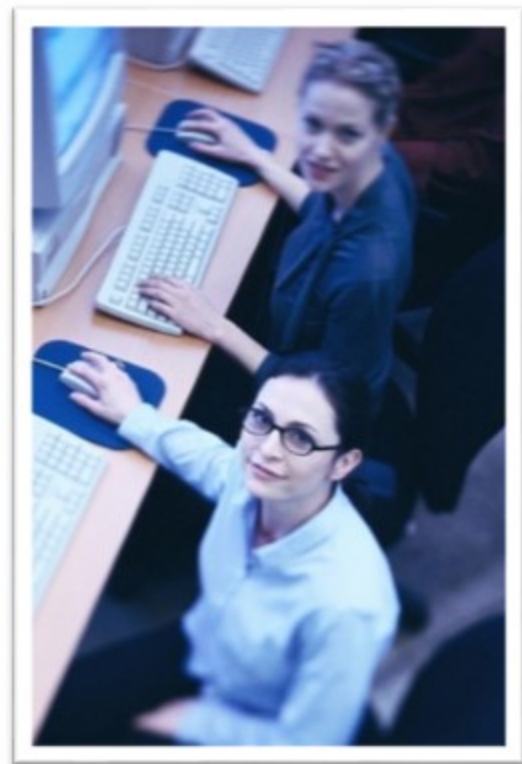
- **Identify** team members who are part of the process
- **Notify** them that there is a new SOP



## Step 7: Training

---

- **The most important step!**
  - If training doesn't happen effectively, the SOPs are useless
- Choose the best training approach for the SOP:
  - One-on-one
  - Group



## Step 7: Training

- Have the **author train** other team members on the SOP
- **Document** team members' training completion
  - ITHS Study Team Training Log



The screenshot shows a form titled "ITHS Study Team Training Log". At the top, there is the ITHS logo and the text "ITHS Research Resources" and "Study Team Training Log". Below the title, there are two input fields: "Principal Investigator" and "Study Title / Protocol". The main body of the form is a table with four columns: "Name of Team Member", "Role in Study", "Description of Training", and "Date Training Completed". The table has 10 rows for data entry.

Name of Team Member	Role in Study	Description of Training	Date Training Completed



## Step 8: Revising & Archiving

---

- What happens if a mistake is found, or if the regulations or policies change?
  - You must have a **formal revision process** that includes:
    - A **designated** member of the study team to manage this process
    - A secured **document management system** (create audit trails, use track changes)
    - A policy on whether revisions are done on a **rolling basis** or **at established time points**, or both



## Step 8: Revising & Archiving

---

- When SOPs are updated, the **old versions** need to be **archived** for historical reference.
  - Keep all hard-copy **signed originals** in the SOP binder
  - **Label** superseded versions as “**Archived**” (stamp or handwritten)
  - **Remove** superseded **PDF** versions from circulation

