Memorial Sloan Kettering Cancer Center

Conduct of the Trial Part II

Greg Riely
Marlon Lasa-Blandon

OBJECTIVES

- Discuss key meetings and training best practices
- Review PI responsibilities related to delegation & project management
- Describe the amendment review & submission process
- How practical aspects of trial conduct are important in the big picture

Protocol Training and Oversight

- Regular meetings with staff and sponsor(s)
  - Types of meetings:
    - Initial Training
      - Site Initiation Visit(SIV)
    - Ongoing Training & Oversight
      - PI Meeting
      - Sponsor calls-dose escalation meeting
      - Service specific research meeting
      - Amendment training

Site Initiation Visit (SIV)

The SIV is required to prepare and set up a research site to conduct a study and must occur prior to patient recruitment.

Mini-SIV may be scheduled prior to activation in the Regional and inpatient setting.

Who should attend?

The principal investigator (PI) must attend this visit together with as many members of the research team as possible

Primary CTN of the study

Representatives from any supporting departments should also attend where possible e.g. pharmacy, radiology, laboratories

Forms completed at SIV

Attendance

Delegation of Authority (DOA)

Form FDA 1572

Typical SIV Agenda

Topic	Intended Audience
Introductions	All
Serious Adverse Event Review	Coordinators, Clinical trial nurse(CTN)
Enrollment Procedures • Subject Registration	Coordinators, CTN
Data Management and Monitoring • EDC Process • Monitoring Expectations • Regulatory Binder Maintenance	Coordinators, CTN
Laboratory Procedures	Lab Personnel, PK tech, Coordinators, CTN
Investigator Obligations	Investigators, CTN, Coordinators
Scientific Background	Investigators, CTN, Coordinators
Protocol Review • Trial Design • Study Timelines • Objectives • Inclusion and Exclusion Criteria • Dose Advancement and Slot Allocation • Dose Modifications • Schedule of Assessments	Investigators, CTN, Coordinators
Investigational Product Handling • Supply • Storage • Temperature Excursion • Preparation • Accountability • Return/Destruction	Pharmacists, CTN, Coordinators

Documents related to SIV

- Attendance documentation
- Delegation of Authority (DOA)
- Form FDA 1572

Delegation of Authority (DOA)

- Investigators may delegate certain study-related tasks to members of the research team
- The investigator is responsible for providing supervision to whom tasks are delegated and the investigator is accountable for regulatory violations
- This delegation is documented on the Delegation of Authority (DOA) Form/Log

DOA Form

Bristol-Myers Squibb
Research and Development

DELEGATION OF AUTHORITY FORM

Page ___ of ___

INVESTIGATOR :	PROTOCOL NUMBER: CA186-107	SITE NUMBER: 0007

The Investigator may delegate study-related duties to appropriately qualified persons. Please provide the information below for each person who is delegated a study task.

Print Full Name *Start with Investigator and then list persons to whom she/he has delegated trial related duties (Also add name in "local language characters" when appropriate)*	Signature	Date of signature *(dd/mmm/ YYYY)*	Initials	Study Role *e.g. Investigator, Subinvestigator, Study Coordinator, Research Nurse, Lab Technician, Pharmacist*	Key Study Tasks Delegated* *Circle assigned tasks as per the codes listed below*	Duration as authorized by Investigator *Enter date under "To" only if responsibility ended before the completion of the study.*			
						From *(dd/mmm/ YYYY)*	Initials	To *(dd/mmm/ YYYY)*	Initials
				Subinvestigator	(1) 2 3 (4) 5 6 7 8 9 10 11 12 (13) (14) (15)	09/Mar/2015		15/Oct/2015	
					1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				
					1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				
					1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				
					1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				
					1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				
					1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				
					1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				

* Codes to "Key Study Tasks Delegated"					
1	Obtain Patient Consent	6	Biological Sampling / Shipment, e.g. blood, urine and tissue	11	Key Assessment: ______________
2	Subject Enrolment	7	CRF / Query Completion	12	Key Procedure: ______________
3	Subject Randomization	8	CRF / Query Correction	13	Other: ______________
4	Trial-related Medical Decisions / Supervision	9	CRF / Query Signature	14	Other:
5	Investigational Product (IP) Dispensing / Accountability	10	Maintain Study File	15	Other: ______________

29 March 2010
CT SOP GBL 503 FRM 03.01

Submit original to Bristol-Myers Squibb and retain a copy at the site.

Alterations to this form are not permitted without prior authoization.

Form FDA 1572

- This form serves as an agreement between the **PI** and **the sponsor** to provide information and to assure that he/she will comply with FDA regulations
- Includes:
  - Name of investigator
  - Education , training & experience of investigator(CV)
  - Name & address of any Medical School, Hospital or Research Facility where the study will be conducted
  - **Name & address of any Clinical Laboratory to be used in the study**
    - **All sites/locations at MSK must be listed separately**
  - Name & address of the IRB that is responsible for the review & approval of the study
  - **Name of the sub investigators**

DEPARTMENT OF HEALTH AND HUMAN SERVICES
FOOD AND DRUG ADMINISTRATION

STATEMENT OF INVESTIGATOR

(TITLE 21, CODE OF FEDERAL REGULATIONS (CFR) PART 312)
(See instructions on reverse side.)

Form Approved: OMB No. 0910-0014
Expiration Date: February 28, 2019
See OMB Statement on Reverse.

NOTE: No investigator may participate in an investigation until he/she provides the sponsor with a completed, signed Statement of Investigator, Form FDA 1572 (21 CFR 312.53(c)).

1. NAME AND ADDRESS OF INVESTIGATOR

Name of Principal Investigator
Neil H. Segal, MD, PhD

Address 1	Address 2		
Memorial Sloan Kettering Cancer Center	300 East 66th Street		
City	**State/Province/Region**	**Country**	**ZIP or Postal Code**
New York	NY	USA	10065

2. EDUCATION, TRAINING, AND EXPERIENCE THAT QUALIFY THE INVESTIGATOR AS AN EXPERT IN THE CLINICAL INVESTIGATION OF THE DRUG FOR THE USE UNDER INVESTIGATION. ONE OF THE FOLLOWING IS PROVIDED *(Select one of the following.)*

☒ Curriculum Vitae ☐ Other Statement of Qualifications

3. NAME AND ADDRESS OF ANY MEDICAL SCHOOL, HOSPITAL, OR OTHER RESEARCH FACILITY WHERE THE CLINICAL INVESTIGATION(S) WILL BE CONDUCTED — CONTINUATION PAGE for Item 3

Name of Medical School, Hospital, or Other Research Facility
Memorial Sloan Kettering Cancer Center

Address 1	Address 2		
160 East 53rd Street (Patient Site)			
City	**State/Province/Region**	**Country**	**ZIP or Postal Code**
New York	NY	USA	10022

4. NAME AND ADDRESS OF ANY CLINICAL LABORATORY FACILITIES TO BE USED IN THE STUDY — CONTINUATION PAGE for Item 4

Name of Clinical Laboratory Facility
MSKCC Department of Laboratory Medicine-Main

Address 1	Address 2		
1275 York Avenue			
City	**State/Province/Region**	**Country**	**ZIP or Postal Code**
New York	NY	USA	10065

5. NAME AND ADDRESS OF THE INSTITUTIONAL REVIEW BOARD (IRB) THAT IS RESPONSIBLE FOR REVIEW AND APPROVAL OF THE STUDY(IES) — CONTINUATION PAGE for Item 5

Name of IRB
Institutional Review Board, Memorial Sloan Kettering Cancer Center

Address 1	Address 2		
1275 York Avenue			
City	**State/Province/Region**	**Country**	**ZIP or Postal Code**
New York	NY	USA	10065

6. NAMES OF SUBINVESTIGATORS *(If not applicable, enter "None")*

Jedd D. Wolchok, MD, PhD, Sandra P. D'Angelo, MD, Margaret K. Callahan, MD, PhD, Alexander Lesokhin, MD, Karen Autio, MD, John F. Gerecitano, MD, PhD, Alexander Drilon, MD, David M. Hyman, MD, Matthew D. Hellmann, MD, Dmitriy Zamarin, MD, PhD, Alexandra Snyder Charen, MD, Michael Postow, MD, Mary Kate Kasler, NP, RuthAnn Gordon, NP,

CONTINUATION PAGE – for Item 6

7. NAME AND CODE NUMBER, IF ANY, OF THE PROTOCOL(S) IN THE IND FOR THE STUDY(IES) TO BE CONDUCTED BY THE INVESTIGATOR

CA186107: A Phase 1/2 Dose Escalation and Cohort Expansion Study of the Safety and Tolerability of

Commitments on FDA Form 1572

9. COMMITMENTS

I agree to conduct the study(ies) in accordance with the relevant, current protocol(s) and will only make changes in a protocol after notifying the sponsor, except when necessary to protect the safety, rights, or welfare of subjects.

I agree to personally conduct or supervise the described investigation(s).

I agree to inform any patients, or any persons used as controls, that the drugs are being used for investigational purposes and I will ensure that the requirements relating to obtaining informed consent in 21 CFR Part 50 and institutional review board (IRB) review and approval in 21 CFR Part 56 are met.

I agree to report to the sponsor adverse experiences that occur in the course of the investigation(s) in accordance with 21 CFR 312.64. I have read and understand the information in the investigator's brochure, including the potential risks and side effects of the drug.

I agree to ensure that all associates, colleagues, and employees assisting in the conduct of the study(ies) are informed about their obligations in meeting the above commitments.

I agree to maintain adequate and accurate records in accordance with 21 CFR 312.62 and to make those records available for inspection in accordance with 21 CFR 312.68.

I will ensure that an IRB that complies with the requirements of 21 CFR Part 56 will be responsible for the initial and continuing review and approval of the clinical investigation. I also agree to promptly report to the IRB all changes in the research activity and all unanticipated problems involving risks to human subjects or others. Additionally, I will not make any changes in the research without IRB approval, except where necessary to eliminate apparent immediate hazards to human subjects.

I agree to comply with all other requirements regarding the obligations of clinical investigators and all other pertinent requirements in 21 CFR Part 312.

Project management/supervision

How do you supervise the staff to which you have delegated responsibilities?

Before the study

- Ensure adequate training
- Identify potential areas of poor compliance (e.g. protocol-related procedures that are non-standard) and address ahead of time

During the study

- Spot checking (in areas you know about)
- Carefully reviewing monitor feedback
- Relying on normal supervision structures (e.g. pharmacy)

Principal Investigator (PI) Meetings

- **Purpose:** Address all clinical & regulatory components/issues
- **Attendees should include**: PI, primary Clinical Research Coordinator/Clinical Research Associate, Clinical Trials Nurse, Regulatory associate
- Reasonable to link regular/routine tasks to PI meeting (e.g. grading/attribution of laboratory toxicity, central lab review) assuming the meeting is weekly
- Review agenda
  - Patient review: Clinical considerations, AEs, consents, eligibility, pill diaries
  - Drug return forms/IP accountability
  - Data & queries
  - Regulatory (DOA, upcoming CRRs, amendments)
  - Monitoring (next visit, review prior visit/formulate CAPA)
  - Additional updates/questions

Sample PI Meeting Minutes/Prep

TOPIC	IRB#:	Study Contacts: *Name study team members responsible for providing updates including CTN*
Accrual	**Protocol Status:** **Overall Target Accrual:** • Accrual for Cohorts / Evaluable patients (if applicable): **Current Accrual:** • Accrual for Cohorts / Evaluable patients (if applicable): *For Multi-Site trials, please also refer to the accrual information provided in the Multi-Site section*	

Patients *Pull up patient tracker for full patient review* Incorporate potential patients/waitlist	PT NAME	COHORT	CURRENT Timepoint	LAST SCAN	NEXT SCAN	COMMENTS

SAE Review	*Review all recent SAEs, AESIs and see what SAEs might need FU. If data needs an update on the SAEs please add here. *Please also note the relevant IRB/sponsor SAE, AESI reporting windows* •
Deviations	*Please add any deviations that have happened over the past 2-4 weeks and the status of IRB submission* **Retrospective Deviations:** **Prospective Deviations:**
Data	*Pull up EDC and review any clinical queries with PI/CTN as well as upcoming data locks* **Database:** *Medidata* **Outstanding Queries**: • **Outstanding Missing Pages**: • **Comments on data**: • **Plan/expected timeframe to address outstanding issues:** • **Items preventing data entry/query closeout:**

Sample PI Meeting Minutes/Prep

CRDBi/Lab Toxicities	*Have PI submit any pending CR Tox pending AEs. Please enter all patients that lab tox assessments are needed for. If completing lab tox in CRDB, have PI login to attribute the lab toxicities. ** add all pts below*** **NAME** | **START DATE** | **END DATE** | **COMMENTS**

v. 11/21/2023

MINT/ *response assessment* **sign-off**	**Have PI sign into MINT (not during PI meeting) to finalize pending RECIST** **Make PI aware of any pending sign-offs, how long pending**

QA
Inclusive of Monitoring
	Last Monitoring Visit: *DATE*
	• Was a FU letter sent?
	• What were the major findings to address in next monitoring visit?
	  ○ Outstanding reg
	  ○ MATS report
	  ○ Internal QA reports
	  ○ Discussion of potential external audits
	  ○ Re-trainings required?
	
	Next Scheduled Monitoring Visit: *DATE*
	• PI/Monitoring Meeting Needed?

Regulatory **Regulatory staff/ RRA:**	• **Have PI sign into PIMS and submit any pending userwork** • *Discuss/list on-going amendments, re-consent requirements, CAPAs, POS updates, investigator trainings, DOA updates, upcoming CRRs*
Outstanding Issues/Misc	**Include any other major details including any patient complaints, patient compliance issues, RISQs, IP accountability issues** **Outstanding CIS notes**

Sample PI Meeting Minutes/Prep

Multi-Site (If applicable)	Multi-Site Accrual:
	• Site # 1:
	  ○ Site Status:
	  ○ Overall Target Accrual:
	  ▪ Accrual for Cohorts / Evaluable patients (if applicable):
	  ○ Current Accrual:
	  ▪ Accrual for Cohorts / Evaluable patients (if applicable):
	Incorporate patient updates from external sites into the table above or patient tracker. Please also add any potential patients
	Data Updates:
	• *Include any data updates for external sites (i.e., queries, delinquencies, source documentation, comments)*
	Monitoring Updates:
	• *Include any applicable discussion items (i.e., Risk-Based Monitoring Plan review, upcoming visits at the external sites, questions)*
	Regulatory Updates:
	• *Include any updates for external sites (i.e., amendments, deviations, safety reports, Investigator's Brochures, regulatory documents, SAEs, UPs, CRRs, DSMCs, and IND Reports)*
	Correlative Updates:
	• *Include any updates for external sites (i.e., correlative collections and shipments)*
	Site Activation Updates:
	• *Include any updates for external site activations (i.e., CDA, kickoff calls, ICF review, committee and IRB approvals, budget, contract, SIV, essential regulatory documents)*
	Other:

Sponsor Meetings

- **Purpose:** Manage quality throughout all stages of the trial process.
- Scheduled at regular intervals, i.e. monthly or quarterly. Dose escalation studies may have more frequent meetings
- Attendees include:
  - Investigators across sites
  - Sponsor representative, including medical monitor
  - Study team designees across sites including study coordinator and clinical trial nurse
- Discussion includes:
    - Study updates including
      - Safety Updates
      - Dose escalation updates
      - Site updates
        - » Patient updates: Clinical considerations, AE reviews

Sponsor responsibilities: Monitor Visits

PREPPING/SETTING UP A VISIT

CONDUCTING VISIT

REVIEW FEEDBACK

FOLLOWING UP FEEDBACK WITH CAPA

Sponsor responsibilities: Monitor Visits

5.18 Monitoring

5.18.1 Purpose

The purposes of trial monitoring are to verify that:

(a) The rights and well-being of human subjects are protected.

(b) The reported trial data are accurate, complete, and verifiable from source documents.

(c) The conduct of the trial is in compliance with the currently approved protocol/amendment(s), with GCP, and with the applicable regulatory requirement(s).

E6(R2) Good Clinical Practice: Integrated Addendum to ICH E6(R1) https://www.fda.gov/media/93884/download

Monitor Responsibilities (highlights)

5.18.4 Monitor's Responsibilities

The monitor(s), in accordance with the sponsor's requirements, should ensure that the tri al is conducted and documented properly by carrying out the following activities when relevant and necessary to the trial and the trial site:

(a) Acting as the main line of communication between the sponsor and the investigator.

(b) Verifying that the investigator has adequate qualifications and resources (see sections 4.1, 4.2, 5.6) and these remain adequate throughout the trial period, that facilities including laboratories and equipment, and staff, are adequate to safely and properly conduct the trial and remain adequate throughout the trial period.

(c) Verifying, for the investigational product(s):

  (i) That storage times and conditions are acceptable, and that supplies are sufficient throughout the trial.

  (ii) That the investigational product(s) are supplied only to subjects who are eligible to receive it and at the protocol specified dose(s).

  (iii) That subjects are provided with necessary instruction on properly using, handling, storing, and returning the investigational product(s).

  (iv) That the receipt, use, and return of the investigational product(s) at the trial sites are controlled and documented adequately.

  (v) That the disposition of unused investigational product(s) at the trial sites complies with applicable regulatory requirement(s) and is in accordance with the sponsor.

(d) Verifying that the investigator follows the approved protocol and all approved amendment(s), if any.

(e) Verifying that written informed consent was obtained before each subject's participation in the trial.

(f) Ensuring that the investigator receives the current Investigator's Brochure, all documents, and all trial supplies needed to conduct the trial properly and to comply with the applicable regulatory requirement(s).

(g) Ensuring that the investigator and the investigator's trial staff are adequately informed about the trial.

- The monitor is the main line of communication between the sponsor and the investigator
- Verifying that the investigator has adequate qualifications and resources
- Verifying investigational product
- Verifying that investigator follows the protocol
- Verifying that written informed consent was obtained
- Ensuring/verifying all aspects of study conduct

E6(R2) Good Clinical Practice: Integrated Addendum to ICH E6(R1) https://www.fda.gov/media/93884/download

Monitoring Reports

5.18.6 Monitoring Report

(a) The monitor should submit a written report to the sponsor after each trial-site visit or trial-related communication.

(b) Reports should include the date, site, name of the monitor, and name of the investigator or other individual(s) contacted.

(c) Reports should include a summary of what the monitor reviewed and the monitor's statements concerning the significant findings/facts, deviations and deficiencies, conclusions, actions taken or to be taken and/or actions recommended to secure compliance.

(d) The review and follow-up of the monitoring report with the sponsor should be documented by the sponsor's designated representative.

E6(R2) Good Clinical Practice: Integrated Addendum to ICH E6(R1)
https://www.fda.gov/media/93884/download

Meeting with monitor

- Often can take 5 minutes
- They have to check a box that says they have met with you

But, you can do more with that meeting…

- Be nice to them, develop a relationship
- Take advantage of this external person (who may or may not know more about clinical research than your team), that has taken the time to review your site's activities
  - How do things look?
  - Anything they are worried about?

Following up on Monitoring Reports: CAPA

- A **corrective and preventive action (CAPA)** plan is an essential element of quality assurance and promotes a continuous process for improvement to ensure compliance.

- This plan outlines the **specific actions** to be taken to correct an observation (i.e., an issue/deficiency) that has already occurred or been identified. It **identifies the root cause(s)** of the observation and the potential for it to occur in other areas and **provides a solution** for the cause(s). The observation should be explained, and a preventive solution should be described to prevent recurrence of the observation(21 CFR 820.100 and 21 CFR 211.180).

Excerpt from MSK CAPA SOP

- CAPA should:
  - Identify: Pinpoint the problem or potential problem.
  - Investigate: Research the problem.
  - Evaluate: Assess the magnitude and impact of the problem.
  - Analyze: Perform a root cause analysis of the problem.
  - Act: Create a list of required actions and due dates to correct the problem and prevent recurrence.
  - Implement: Execute the action plan and track action item, responsibilities and completion status. o
  - Follow-up: Verify and assess the effectiveness of the plan. Make changes to the plan if needed
- The Responsible Personnel is responsible for ensuring the CAPA plan is implemented by the specified date(s).
- CAPA plan should be submitted by the established deadline.

CR 505 Corrective and Preventive Action (CAPA) Plan SOP

Research Group (Service/Division/Dept) Meetings

- **Purpose**: Review protocol activity across a disease specific service

- **Attendees:** MD Investigators, Clinical trial nurses, Research staff, fellows, service APPs

- **Agenda can includes**:
  - Pipeline review
    - Protocol Concept review (before submission…do we want to do this?)
    - Studies in review (Time to Activation)
    - Studies about to open
  - Active protocol review: Patient updates, safety discussions, regulatory updates

Example Research Group (Service) Meeting Agenda

Early Drug Development SERVICE MEETING

When: Thursday 3:30-4:30pm

Where: Zoom

Agenda:

- Shared Investigator Platform (SIP)- Nicholas Cimaglia

- Clinics scheduling for the next two weeks

- Pre-Protocol Activation Pipeline

- Protocol pipeline update

- Time to Activation

-Active protocol review: **Group 2**

- Fusions
- Intratumoral
- Tumor Suppressors
- Tumor AG
- Tumor AG/Cell Therapy
- DNA Repair and cell cycle

Amendments

- **Definition**: Change in **Protocol**

A sponsor of an IND application is expected to submit a **protocol amendment** in cases when there are changes in the existing **protocol** that significantly affect safety of subjects, scope of the investigation, or scientific quality of the study (21CFR312.30).

Steps to Consider for an Amendments @ MSK

- ✓ Review the amendment
- ✓ Submit Amendment to IRB (in a timely fashion)
  - ***Order set revisions?***
  - ***Eligibility checklist updates?***
  - ***Informed Consent revision?***
- ✓ Ensure Amendment Training

Amendment Training

- **Purpose**: provide training on updated trial requirements.
  - As with SIV, investigators are required to complete amendment training
- Training will include:
  - Updates to protocol conduct
  - Protocol document changes
- Training confirmation is required

Old school method of training confirmation:

signed/dated paper sign-in sheet at a meeting

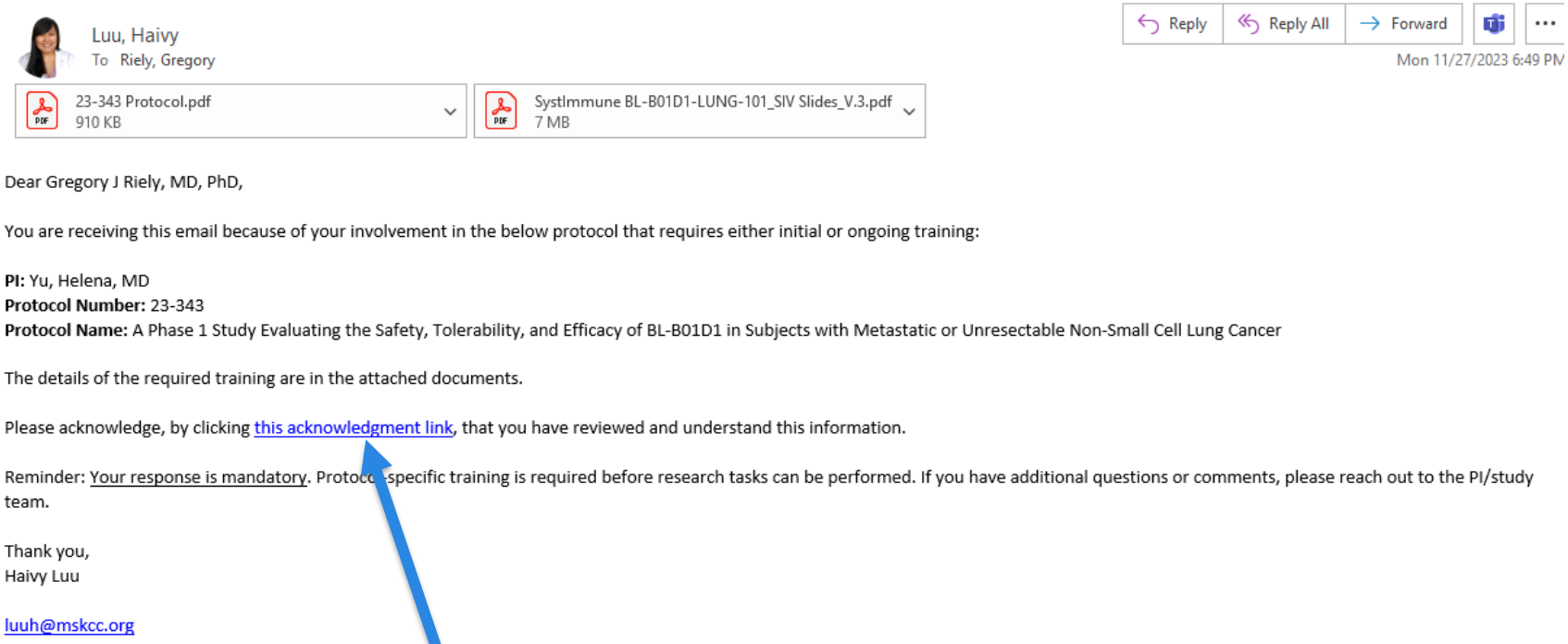
+

meeting minutes

Newer method of training confirmation:

Please acknowledge, by responding to this email, that you have reviewed and understand this information. This response documents that you have been adequately trained on this protocol. ***YOUR RESPONSE IS MANDATORY.***

Current Method of Amendment Training



Luu, Haivy
To Riely, Gregory

Reply | Reply All | Forward | ...
Mon 11/27/2023 6:49 PM

23-343 Protocol.pdf
910 KB

SystImmune BL-B01D1-LUNG-101_SIV Slides_V.3.pdf
7 MB

Dear Gregory J Riely, MD, PhD,

You are receiving this email because of your involvement in the below protocol that requires either initial or ongoing training:

PI: Yu, Helena, MD
Protocol Number: 23-343
Protocol Name: A Phase 1 Study Evaluating the Safety, Tolerability, and Efficacy of BL-B01D1 in Subjects with Metastatic or Unresectable Non-Small Cell Lung Cancer

The details of the required training are in the attached documents.

Please acknowledge, by clicking this acknowledgment link, that you have reviewed and understand this information.

Reminder: Your response is mandatory. Protocol-specific training is required before research tasks can be performed. If you have additional questions or comments, please reach out to the PI/study team.

Thank you,
Haivy Luu

luuh@mskcc.org

If you click this link…

Current Method of Amendment Training

This shows up in the PIMS regulatory binder…

FROM: Arbour, Kathryn, MD
Investigator
Department of Medicine/ Thoracic Onc

SUBJECT: Acknowledgment of Training Completion for Protocol 16-447 A(13) "A Phase 1/2 Study of the Safety, Pharmacokinetics, and Anti-Tumor Activity of the Oral EGFR/HER2 Inhibitor TAK-788 (AP32788) in Non-Small Cell Lung Cancer".

I hereby acknowledge that I have received and reviewed the following training documents:

16-447 A(13) Lab Manual
16-447 A(13) Phase I Informed Consent
16-447 A(13) Phase II Informed Consent
16-447 A(13) Protocol
16-447 A(13) Protocol_redline

I understand that if I have any questions about the training, materials presented or information not addressed in the training, or if I encounter any problems, it is my responsibility to seek clarification from the study PI.

Arbour, Kathryn, MD

Electronically Signed by: Arbour, Kathryn, MD

Reason: I approve this document

JUN 10, 2021

Importance of Rigorous Clinical Research

- "Two of the cornerstones of science advancement are rigor in designing and performing scientific research and the ability to reproduce biomedical research findings."
- "The application of rigor ensures robust and unbiased experimental design, methodology, analysis, interpretation, and reporting of results."
- "When a result can be reproduced by multiple scientists, it validates the original results and readiness to progress to the next phase of research."

https://www.nih.gov/research-training/rigor-reproducibility
Accessed 11/14/2020

Rigorous data collection in clinical research

In the design process, set reasonable data collection goals

- appropriate data intervals
- collect data that is important
- don't collect data that will not affect the primary/secondary objectives

Rigorous data collection in clinical research

Make sure the right people are doing all aspects of data collection with the right tools

- People doing data collection have the appropriate training
- They are given adequate time
- They are supervised appropriately
- They can ask people questions
- Appropriate tools implemented to streamline

Exercise - Who can/should do this task?

Enter a heart rate into the research database

Exercise - Who can/should do this task?

Determine the indication for an outpatient medicine

Exercise - Who can/should do this task?

Grade a laboratory adverse event

Exercise - Who can/should do this task?

Attribute causality for an adverse event

Exercise - Who can/should do this task?

Obtain tumor measurements

Exercise - Who can/should do this task?

Determine RECIST response

Conclusions

- Clinical research is heavily regulated and structure of most of our activities is due to published rules/regulations (GCP, CFR, etc.)

- Following standard procedures (meetings, forms, etc.) in clinical research will help you to conduct better research and help you to excel in clinical research

- Remember your highest priority is the patients, both current and future.
  - Safe conduct of the trial helps current patients
  - Rigorous, reproducible clinical research results help future patients
  - Remembering this helps you as an investigator!