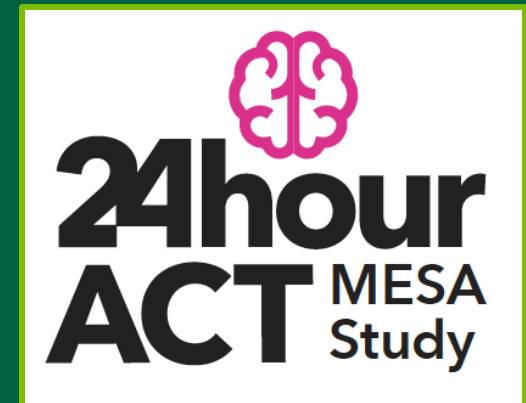


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# MESA 24H-ACT Study

Staff Training Session

January 27, 2022



# Session Overview

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1. Introductions and Study Overview
2. Round Robin: Initialize Devices
3. Supplies and Inventory
4. Download Refresher
5. Shared Forms
6. Q&A
7. Training and Certification
8. Breakout Session
9. Final Thoughts & Next Steps

# Housekeeping Items

- Software download?
- In the chat, please put:
  - Name(s) of attendees with MESA Field Center
- (re) label name as it appears in participant list:
  - Select participant icon
  - Hover over your name in the participant list and select **More**
  - Select **rename** and add “Name (Field Center)”

# Introductions and Study Overview

# Meet the Team – Principal Investigators

Dr. Priya Palta  
(Columbia) – Contact PI



Email: [pp2464@cumc.columbia.edu](mailto:pp2464@cumc.columbia.edu)

Dr. Keith Diaz (Columbia)  
– Data Management



Email: [kd2442@cumc.columbia.edu](mailto:kd2442@cumc.columbia.edu)

Dr. Kelley Gabriel (UAB)  
– Protocol  
Implementation



Email: [gabrielk@uab.edu](mailto:gabrielk@uab.edu)

# Meet the Team

Ms. Margaret Murdock  
(Columbia) – Project  
Coordinator



Email: [mem2356@cumc.columbia.edu](mailto:mem2356@cumc.columbia.edu)

Dr. Erin Dooley (UAB)–  
Post-Doc (Measurement  
Specialist)



Email: [edooley@uab.edu](mailto:edooley@uab.edu)

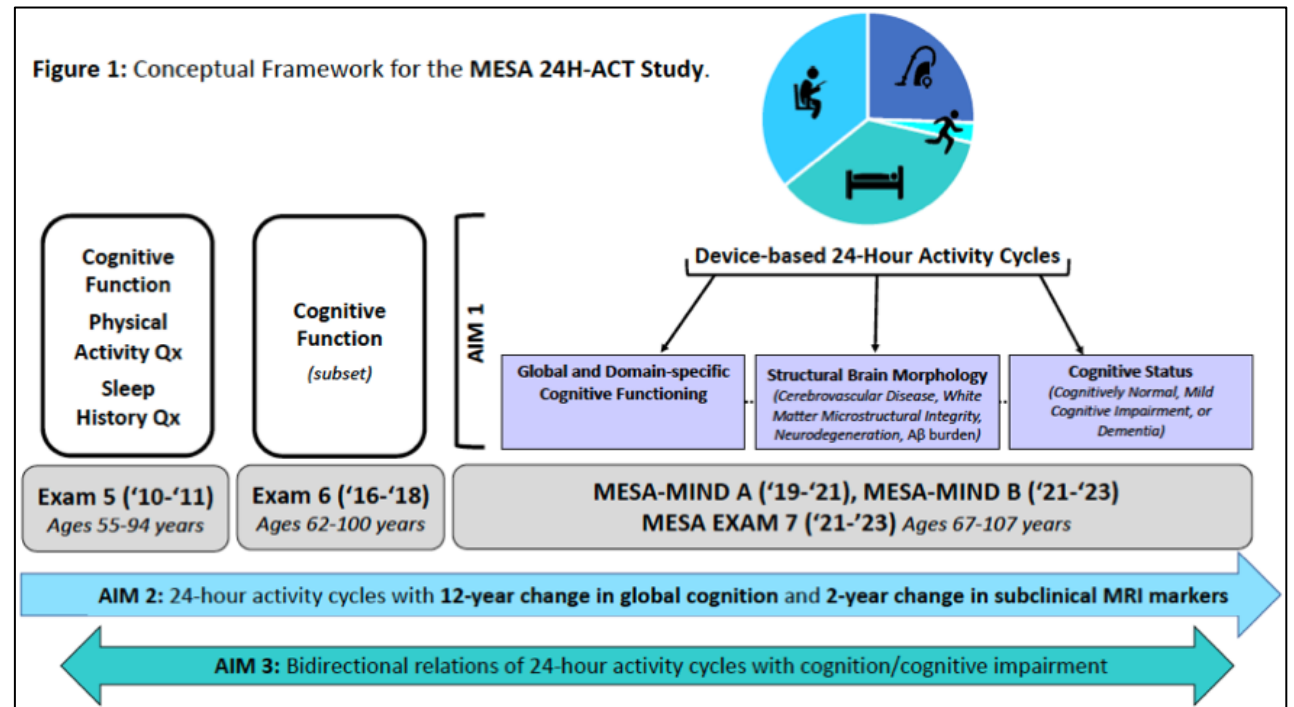
Dr. Pablo Martinez  
Amezcu (Columbia) –  
Post-Doc (Aging)








Email: [pm3151@cumc.columbia.edu](mailto:pm3151@cumc.columbia.edu)

# MESA 24H-ACT Overview

- **Aim 1:** Examine the associations of the 24 hour movement cycle with (a) cognitive performance; (b) cerebrovascular disease, neurodegeneration; (c) A $\beta$  burden; (d) plasma biomarkers of amyloid, tau, and NFL; and (e) prevalence of MCI and dementia.
- **Aims 2 & 3:** Examine the longitudinal and bidirectional associations of the 24-hour movement cycle with cognitive function and cognitive impairment over 12 years.
- **Primary analytic approach:** Compositional data analysis, including compositional isotemporal substitution



# Protocol Overview

 <i>Initialize</i>									 	 <i>Download</i>
<b>Prepare Package</b>	<b>Day 1</b>	<b>Day 2</b>	<b>Day 3</b>	<b>Day 4</b>	<b>Day 5</b>	<b>Day 6</b>	<b>Day 7</b>	<b>Day 8</b>	<b>Recovery</b> <i>as needed</i>	<b>Receipt</b>
<b>24-Hour Activity Cycle Protocol</b>										

**Figure 1.** Overview of the 24H-ACT Protocol.



# Form and Document Overview

## STAFF DOCUMENTS

- ✓ Manual of Operating Procedures
- ✓ Supplies Inventory
- ✓ Information Sheet
- ✓ Hip Monitor Completion Form
- ✓ Certification Checklist

*\*bolded indicates included in the "take -home" package*

## DATA COLLECTION

- ✓ **Participant Diary**

## PARTICIPANT SUPPORT DOCUMENTS

- ✓ **Participant Instructions**
- ✓ **Frequently Asked Questions**
- ✓ **Return Checklist**

## REMINDER MAGNET

# Round Robin: Initialize Devices

# Orientation of Devices for Training

- Each MESA Center - Two (2) fully charged devices



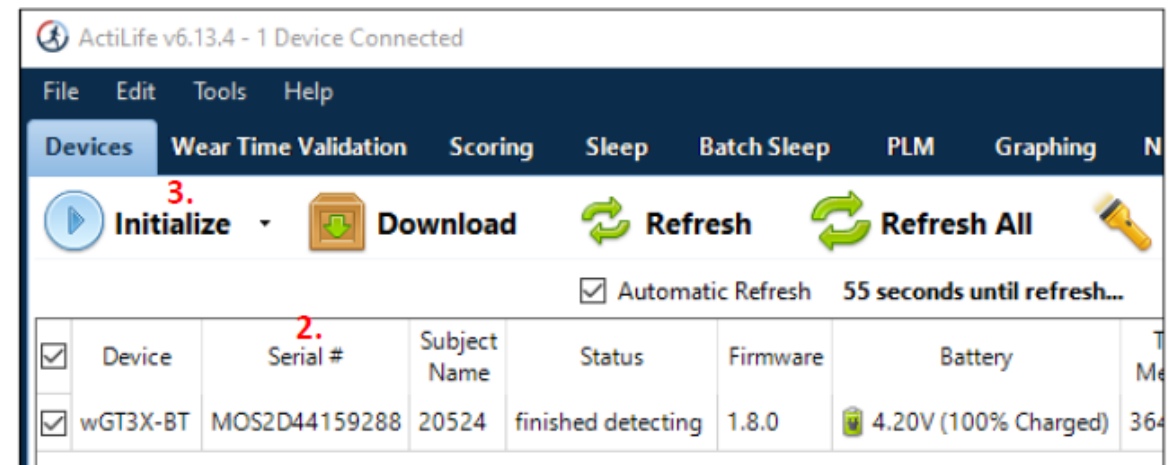
**DEVICE #1- INITIALIZE NOW** will be used for certification on *download* during break-out session



**DEVICE #2 – SET ASIDE** will be used for certification on *initialization* during break-out session

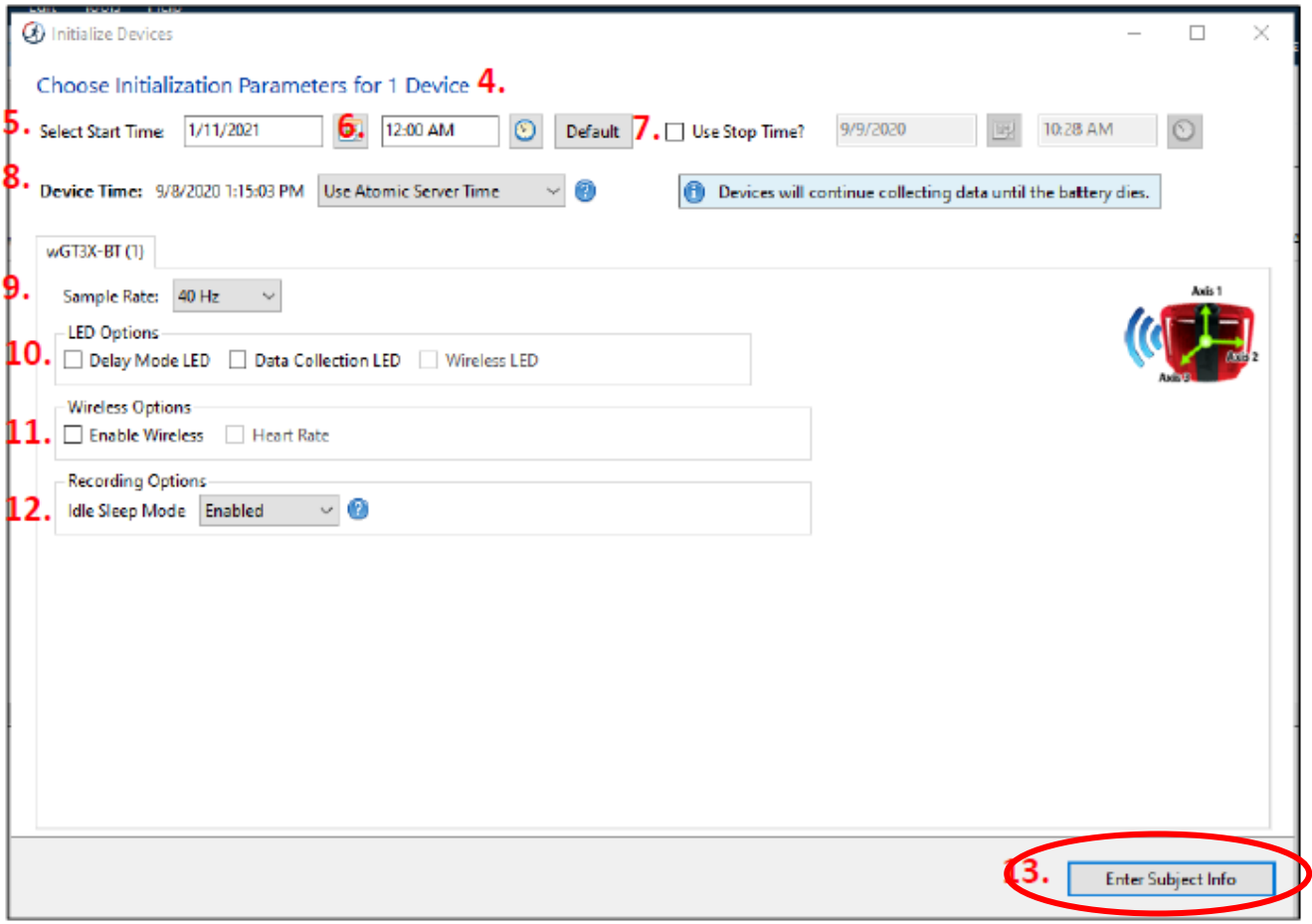
# Initialization

- **What?** Process to prepare activity monitor for field data collection
- **When?** Prior to activity monitor distribution; can only be initialized to start for a future time
- **How?** Open ActiLife6 Software
  - Connect the activity monitor to the computer using a USB cable
  - Select INITIALIZE; then **REGULAR INITIALIZATION**



# Initialization Parameters

- **START DATE**
  - Exam VisitOR
  - 2-days after mailing leaves FC
- **START TIME**
  - 12:00 AM
  - DO NOT enter STOP TIME
- **DEVICE TIME**
  - Select ATOMIC TIME
- **SAMPLE RATE**
  - 40 HZ
- **LED OPTIONS**
  - Uncheck all boxes
- **WIRELESS OPTIONS**
  - Uncheck all boxes
- **RECORDING OPTIONS**
  - Enable Idle Sleep Mode



- Select **ENTER SUBJECT INFO**



# LIVE DEMO

*Followed by Initialization of one (1)  
ActiGraph per Field Center  
(set DEVICE #1 aside)*

# Supplies and Inventory



# Shipment Contents

- Activity Monitors - ActiGraph wGT3X-BT
- Attachments – participant preference?
  - Black elastic belts – varying sizes
  - Belt clips
- USB charging hub and cables
- Red triangles
  - Can also use dime / fingernail
  - A gentle touch is best

## Received via email:

- ActiLife6 software – 2 product keys / downloads per site
  - If you need additional licenses; please contact Dr. Priya Palta by **Friday January 28, 2022**

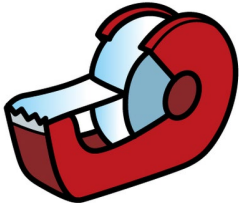
# Supplies Inventory

Site: Wake Forest				
Shipped to MESA FC 1/16/22				
Returned to Columbia Univ				
Accelerometers				
Monitor SN #	Serial #	Received by MESA FC [initials]	Returned/Received Columbia	Notes
W-001	MOS2D42158792			
W-002	MOS2D41158776			
W-003	MOS2D40158721			
W-004	MOS2D13160773			
W-005	MOS2D41158771			
W-006	MOS2D41158760			
W-007	MOS2D41158762			
W-008	MOS2D41158767			
W-009	MOS2D41158736			
W-010	MOS2D41158761			
W-011	MOS2D40158731			
W-012	MOS2D40158799			
W-013	MOS2D41158722			
W-014	MOS2D41158746			

Equipment				
Item	Quantity	Received by MESA FC [initials]	Returned to Columbia	Notes
<b>Shipment #1</b>				
ActiLife Software	2			
USB Hub	1			
Cables	7			
Charging cord	1			
Elastic Belts	3			
Belt Clips	10			
<b>Shipment #2</b>				
Elastic Belts	177			
Belt Clips	170			

Contact Name  
555-555-5555

Monitor **###**



### Study Monitor #

- ✓ ActiGraph (red activity monitor):
- ✓ Y-XXX

Y=Field Center Indicator  
W=Wake, U=UCLA, C=Columbia,  
N=Northwestern, J=Johns Hopkins, M=Minnesota

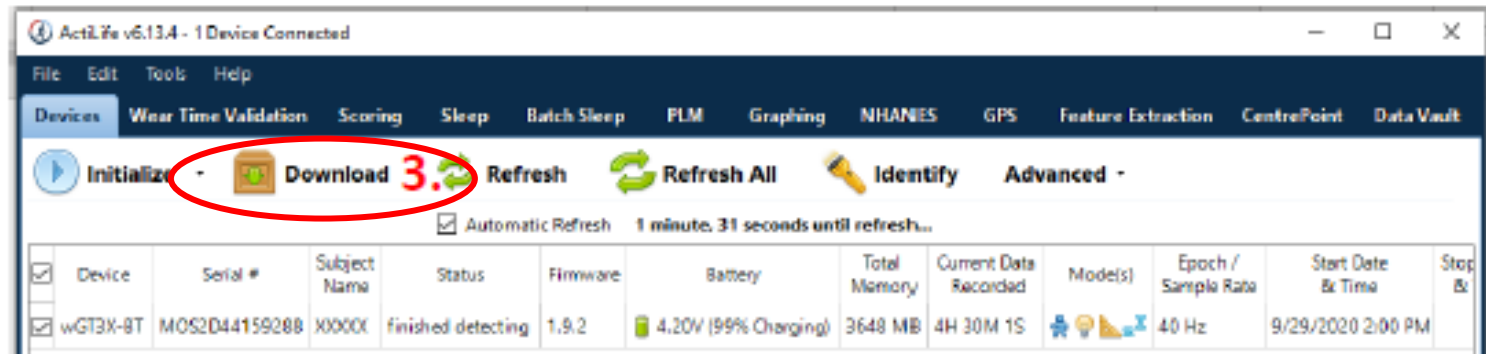
### Next Steps

- ✓ Complete column 3 of inventory
- ✓ Return completed inventory to Dr. Priya Palta by February 1, 2022

# Download Refresher

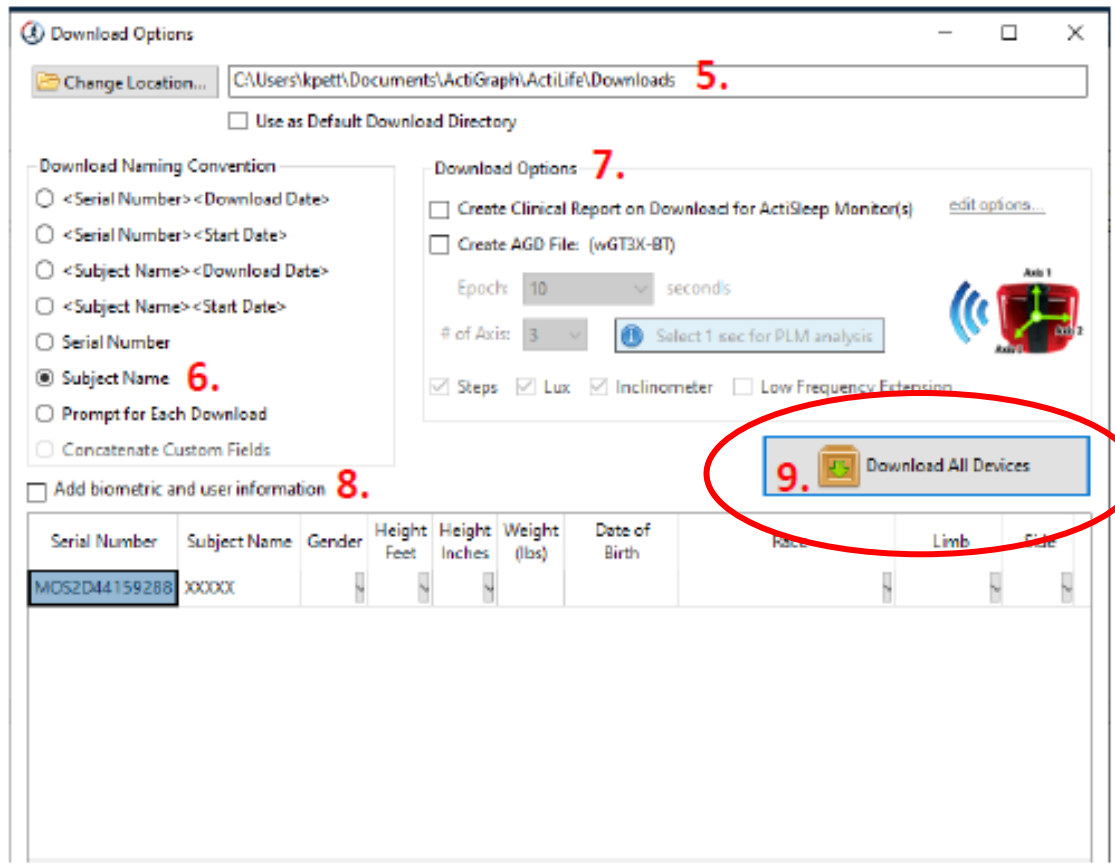
# Data Download

- **What?** Process to extract data from the activity monitor to an individual-level data file for batch processing
- **When?** Once the activity monitor is returned from the participant
- **How?** Open ActiLife6 Software
  - Connect the activity monitor to the computer using a USB cable
  - Under **DEVICESTab**, select **DOWNLOAD**



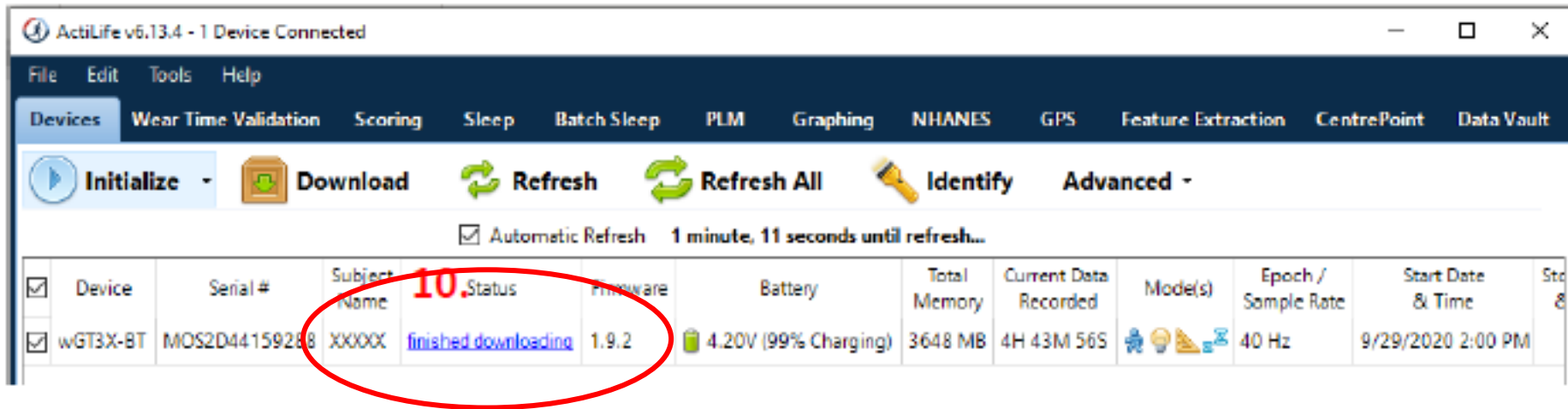
# Download Parameters

- **CONFIRM COMPUTER DIRECTORY**
- **DOWNLOAD NAMING CONVENTION**
  - Select **SUBJECT NAME**(i.e., Participant ID)
- **DOWNLOADING OPTIONS**
  - Uncheck **CREATE CLINICAL REPORT**
  - Uncheck **CREATE AGD FILE**
  - Uncheck **LUX** and **INCLINOMETER**
  - Check (Incorrect on MOO)
  - Uncheck **BIOMETRIC AND USER INFORMATION**
- Select **DOWNLOAD ALL DEVICES**



# Finishing Data Download

- **FINISHED DOWNLOADING** will appear once the download is complete



- Go to the computer directory to confirm the downloaded file is included.

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**LIVE DEMO**

# Shared Forms







# Q&A

The screenshot shows the MESA website interface. At the top left is the MESA logo (a heart with 'mesa' text) and the title 'The Multi-Ethnic Study of Atherosclerosis'. At the top right is the CHSCC logo (Collaborative Health Studies Coordinating Center, UNIVERSITY OF WASHINGTON). A dark blue navigation sidebar on the left contains the following menu items: MESA Internal, Committees, Working Groups, Analytic Opportunities, **Directory** (highlighted), Calendar, General Study Information, Clinic Software Downloads, Ancillary Studies, Manuals, Publications and Presentations, and Clinic Forms. The main content area is titled 'Exam 7 Materials' and includes a 'Training Materials' section with links to 'Exam 7 Central Training Agenda', 'Exam 7 Filed Center MOP (v3 1/24/2022)', 'Exam 7 Biospecimen MOP (1/24/2022)', and 'Exam 7 Forms'. Below this is a 'Core Procedures' section with sub-sections for Medications, Anthropometry Training Video, Blood Pressure Training Video, and Omron BP for Home Visits Video. The 'MESA MIND Ancillary Study' section includes links for 'Cognitive Testing Training Materials' and 'Arterial Stiffness VaSera Device Training Videos'. A red circle highlights the link '24H-ACT Ancillary Study' in the '24H-ACT Ancillary Study' section. Other links in this section include '24H-ACT Ancillary Study Training Video', '24H-ACT Ancillary Study Recruitment and Participant Materials', '24H-ACT Certification Checklist', '24H-ACT Recruitment Materials', '24H-ACT Take Home Materials', 'Participant Diary', and 'Hip and Wrist Activity Monitors'. Further down, there are sections for 'Stress Ancillary Study', 'Glucose Homeostasis Ancillary Study', and 'Neighborhood Ancillary Study', each with their respective training materials and guides.

# Training and Certification

# Training and Certification

- **Training:**
  - 24H-ACT Ancillary Study Training Video Recording – MESA Internal Site
  - Today!
- **Certification:**
  - Initialization and Download
    - Today!
  - 2-3 pilot studies of the entire protocol (12 weeks of today’s training)

MESA 24H-ACT Study– Certification Check Sheet				
<b>Field Center</b>		<b>Date</b>		
_____		_____		
<b>Study Staff</b>		<b>Observer</b>		
_____		_____		
Prepare Data Collection Package			Yes	No
1.	Data collection package includes: Participant Instructions, Frequently Asked Questions, Return Checklist, pre-paid and addressed return envelope/package	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Completed Question 1 on Activity Monitor Tracking Form	<input type="checkbox"/>	<input type="checkbox"/>	
3.	ActiGraph battery fully charged (>98%)	<input type="checkbox"/>	<input type="checkbox"/>	
ActiGraph Initialization			Yes	No
4.	Start date is the expected day of in-person, ancillary study exam	<input type="checkbox"/>	<input type="checkbox"/>	
5.	Start time is 12:00am	<input type="checkbox"/>	<input type="checkbox"/>	
6.	Use stop time? box is unchecked.	<input type="checkbox"/>	<input type="checkbox"/>	
7.	Atomic server time is selected	<input type="checkbox"/>	<input type="checkbox"/>	
8.	Sampling rate is 40 hertz	<input type="checkbox"/>	<input type="checkbox"/>	
9.	LED and Wireless options are unchecked	<input type="checkbox"/>	<input type="checkbox"/>	
10.	Idle Sleep Mode Enabled	<input type="checkbox"/>	<input type="checkbox"/>	
11.	MESA ID entered as Subject Name	<input type="checkbox"/>	<input type="checkbox"/>	
Participant Instruction			Yes	No
12.	Followed Script	<input type="checkbox"/>	<input type="checkbox"/>	
13.	At the end, asked participant if s/he had any questions	<input type="checkbox"/>	<input type="checkbox"/>	
2-3 Day Check-in			Yes	No
14.	Followed Script	<input type="checkbox"/>	<input type="checkbox"/>	
15.	At the end, asked the participant if s/he had any questions	<input type="checkbox"/>	<input type="checkbox"/>	
ActiGraph Data Download			Yes	No
16.	Subject Name (i.e., MESA ID) was used as the file naming convention	<input type="checkbox"/>	<input type="checkbox"/>	
17.	Data file was downloaded to the specified computer directory	<input type="checkbox"/>	<input type="checkbox"/>	

# Breakout Sessions

Device Initialization and Data Download

# Breakout Groups

## Kelley Gabriel

Keith Diaz

- Minnesota
- Northwestern
- UCLA

## Erin Dooley

Priya Palta

- Columbia
- Johns Hopkins
- Wake Forest

# Certification

- Identify up to two (2) research staff members from each field center
- Each staff person will:
  - Initialize DEVICE #2
  - Download DEVICE #1
  - Kelley/Erin will observe while Keith/Priya complete relevant items on certification checklist



# Final Thoughts & Next Steps

# Final Thoughts & Next Steps

Kelley Gabriel

Priya Palta

Keith Diaz

Coordinating  
Center

	Questions about protocol implementation (e.g., device initialization & data download)	✓ <b>On-going</b>		
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## TO DO's

1.	Return COMPLETED supplies inventory		✓	
2.	Requests for additional software licenses		✓ <b>By 1/28/22</b>	
3.	<b>PRACTICE</b>			
4.	<b>PILOT</b>			
4a.	Send recording of participant instruction		✓ <b>By 2/11/22</b>	
4b.	Send downloaded data files			✓

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# Thank you!

## Contact Information

Dr. Priya Palta (Principal Investigator) [pp2464@cumc.columbia.edu](mailto:pp2464@cumc.columbia.edu)

Dr. Keith Diaz (Principal Investigator) [kdiaz2442@cumc.columbia.edu](mailto:kdiaz2442@cumc.columbia.edu)

Dr. Kelley Gabriel (Principal Investigator) [gabrielk@uab.edu](mailto:gabrielk@uab.edu)

