



FORCEDECKS MANUAL

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WHAT ARE FORCEDECKS?

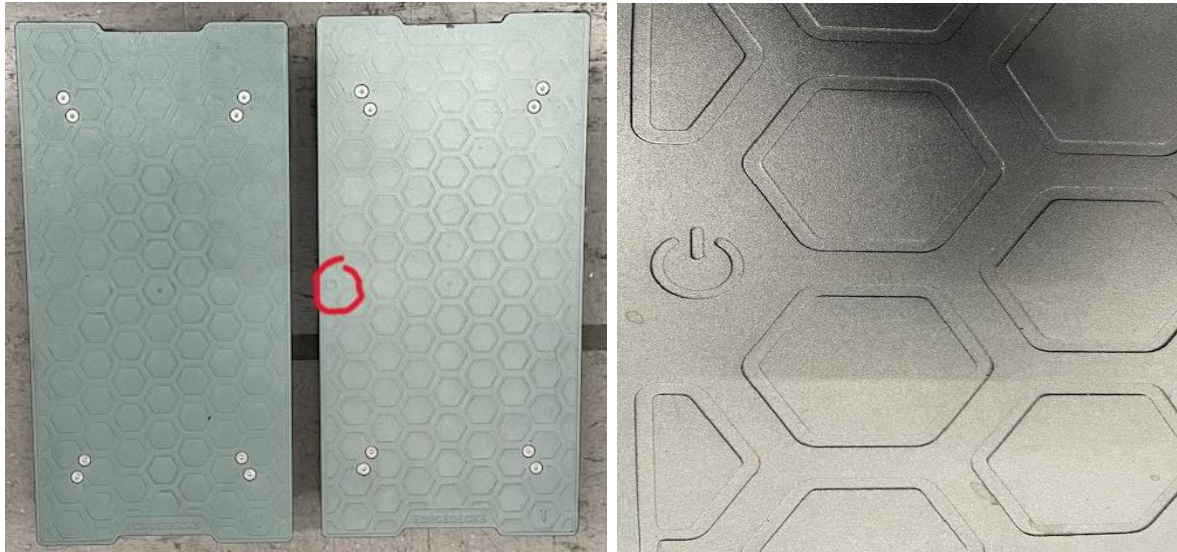
They are force plates used to capture and analyze ground reactions forces generated by a person or object in contact with the surface. The Force Decks provide quantitative measurements on force and weight distribution making them valuable tools in disciplines of kinesiology such as biomechanics, sports science, and physical therapy. The Force Decks allow us to gather precise measurements for jump height, ground contact time, and asymmetries in limb usage. Force plate data can be used to study balance, assess injury risk, evaluate athletic performance, and improve rehabilitation techniques by providing real-time feedback on a subject's movement pattern.

FORCEDECKS SETUP

Step 1. Remove the force plates from the pelican case and position them side-by-side each other. They should place relatively close to each other but not touching. Each force plate should have the words "VALD" at the top and "FORCEDECKS" at the bottom. The words on the force plates should be facing the same direction to ensure you have both plates oriented correctly.



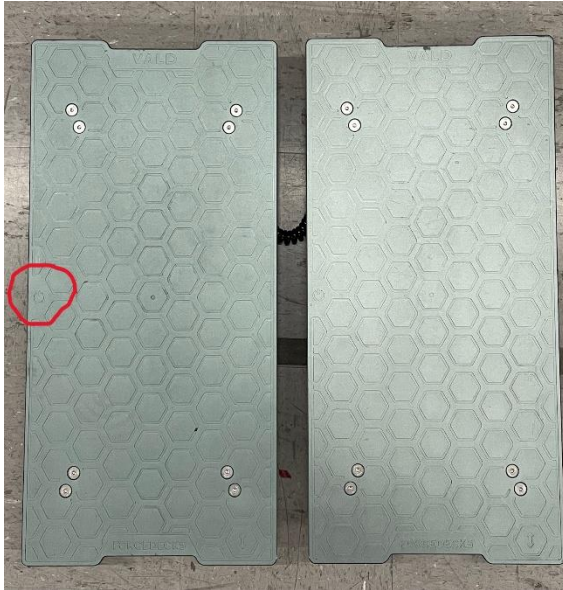
Step 2. On the force plate, look for the power emblem that is positioned on the inside relative between the two. When you lift it up from that side you will see a button labeled "Power" and two outlets labeled "Plate In" and "USB/Charge".



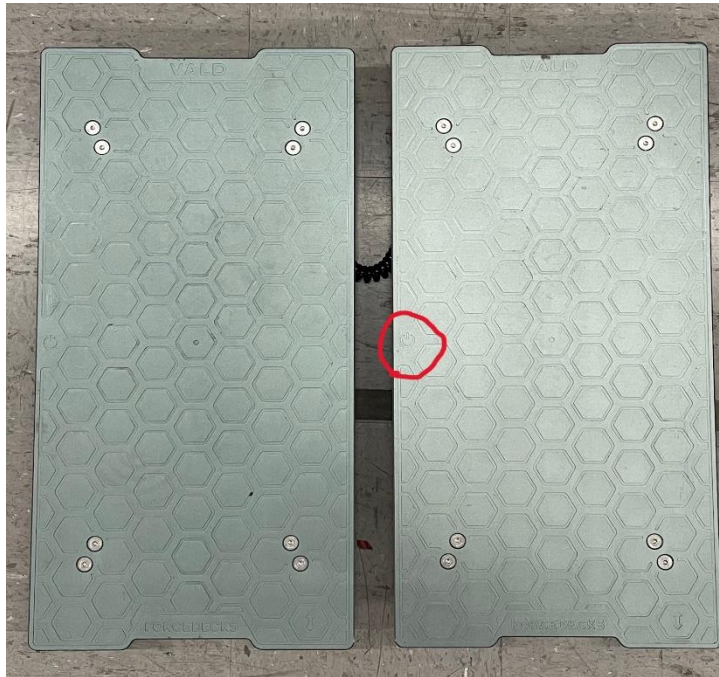
Step 3. When you lift the lift the other plate from the side opposite of the power emblem, you will see a only an outlet labeled "Plate Out". Locate the power cord, and plug it in to the outlets positioned closest to each other labeled "Plate in" and "Plate Out".



Step 4. On the force plate the has the power cord connected to the "Plate Out" outlet, on the opposite side with the power emblem press the power button. When you press it, a white light will appear over the word "Primary" indicating that is the primary force plate. Another light will flash over the word "Battery" to indicate the charge status of the force plate.



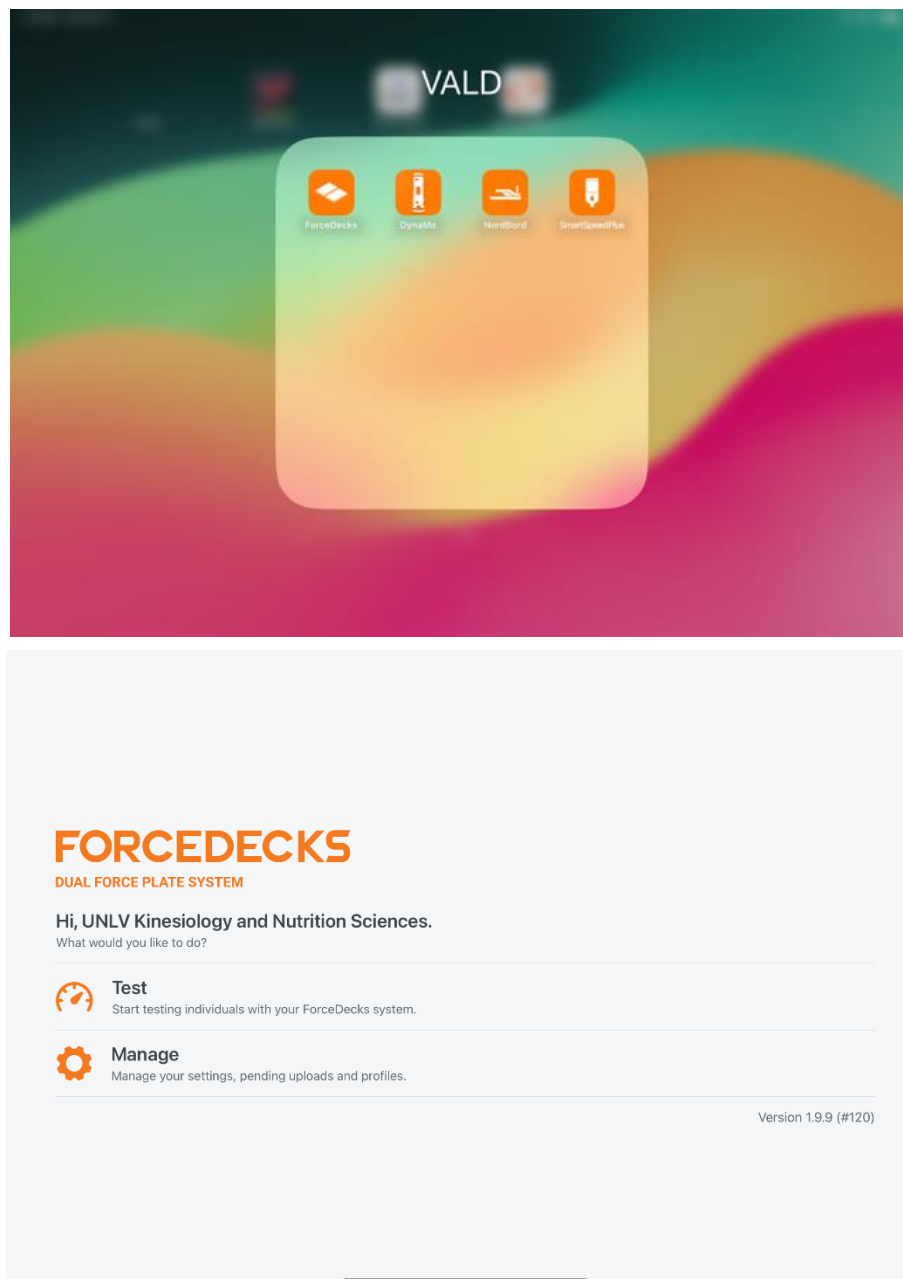
Step 5. On the force plate the has the power cord connected to the "Plate In" outlet, a white light will appear over the word "Secondary" indicating that is the second force plate. Another light will flash over the word "Battery" to indicate the charge status of the force plate.



FORCEDECKS APP SETUP

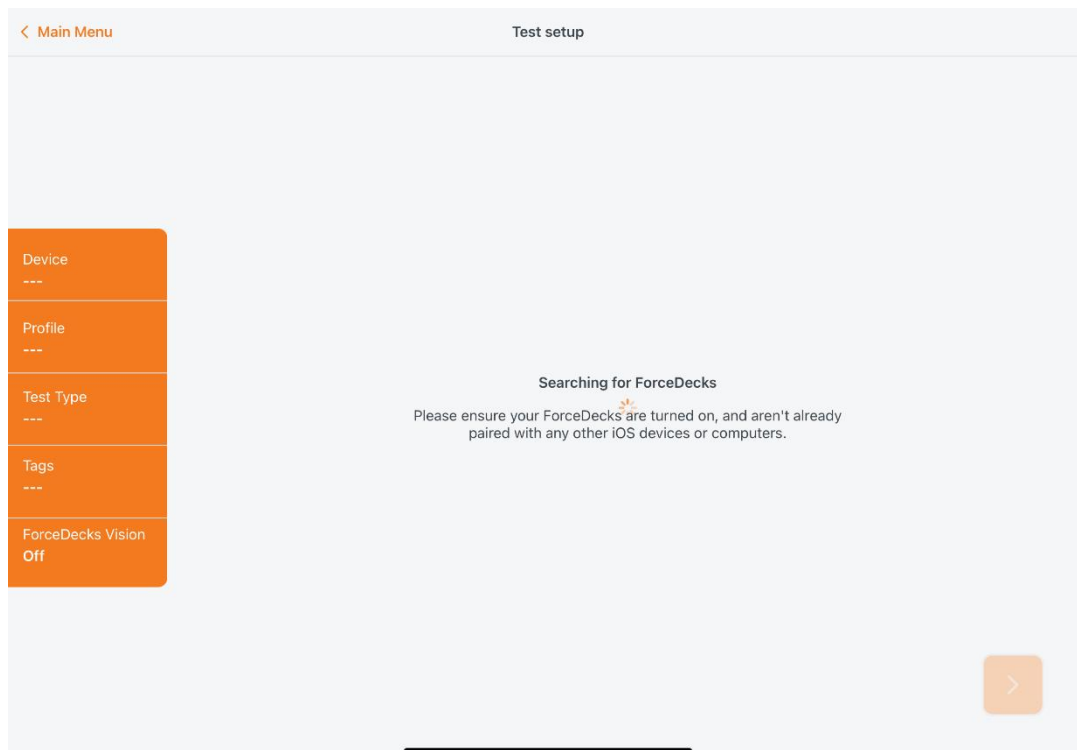
Step 1. Unlock the iPad and locate the app titled “ForceDecks” and open it. When you open it, you will see the home page displayed with two options that are “Test” and “Manage”. Click on Test and advance to the next step.

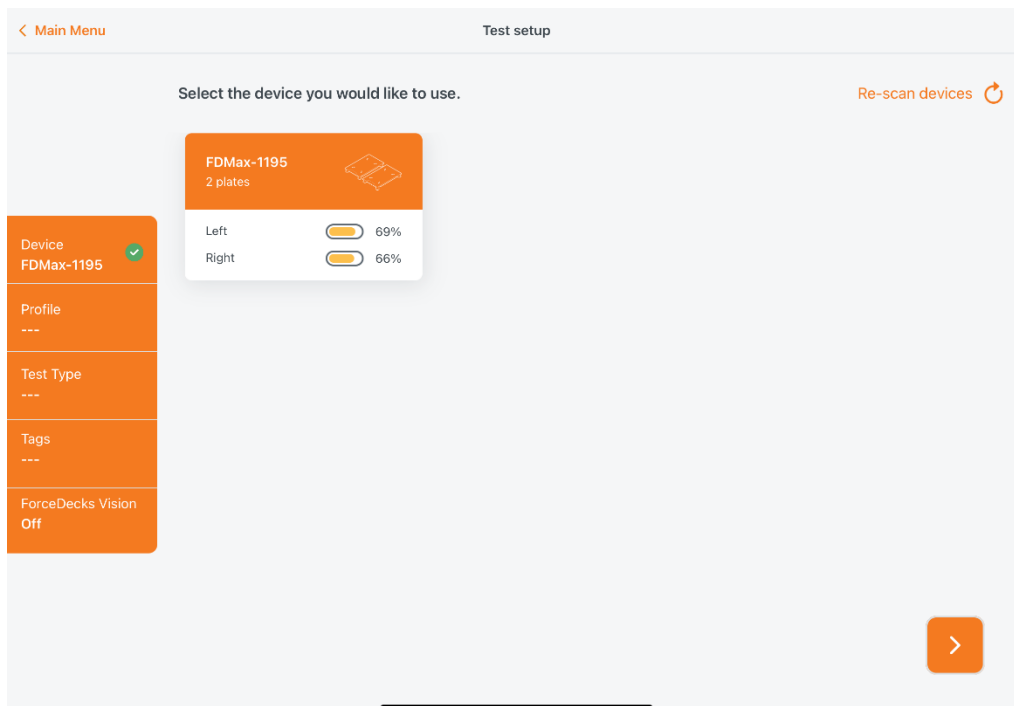
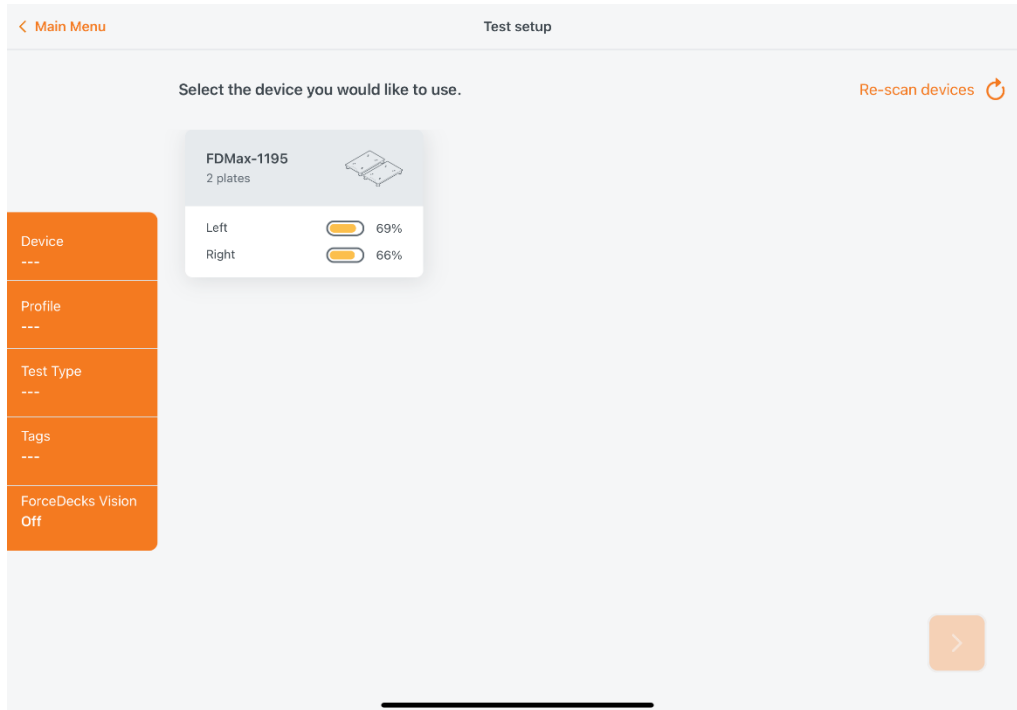
Sidenote, you must have an account created and logged in to have access to the app.



Step 2. After you select “Test” on the main menu, you will be directed to the Device section of the Test Setup page. On the initial page you will see the app is “Searching for ForceDecks”. After making sure the ForceDecks are on, once they have been detected by the app they will be displayed on the screen. The ForceDecks icon displayed will have the battery percentage for the left and right force plates. Selected the ForceDecks that are displayed and click the arrow button in the bottom righthand corner indicating to continue to the next step.

Sidenote, if more then one ForceDecks is in range the app will pick up all that are nearby. Cross reference the serial number of the ForceDecks displayed on the app with the ForceDecks you will be working with to avoid confusion.





Step 3. Next, you will be directed to the Profile section where you will select the profile of the athlete who you are testing. After selecting the profile you will then click the orange arrow in the bottom righthand corner of the page advance to the next section.

< Main Menu

Test setup

Select the profile you would like to test.

Q Search for profiles...

+

Class Demo

Class Demo

Test 1

Test 1

Device
FDMax-1195 ✓

Profile
Class Demo ✓

Test Type

Tags

ForceDecks Vision
Off

>

Step 4. You will advance to the Test Type section where you will be prompted to select the test you are administering. For this example, we will select Countermovement Jump. Once you select the testing option press the solid orange block with the white arrow in the bottom right corner to continue.

< Main Menu

Test setup

Select test type

Auto Detect

Common

Common and recently used tests

Jump

Jump and hop tests

Isometric

Static strength tests

Balance

Balance and stability tests

Functional

Strength and movement tests

Common Tests

Isometric Mid-Thigh Pull

✓ Countermovement Jump

Hop Test

Single Leg Stand

Squat Assessment

Jump Tests

Abalakov Jump

Countermovement Jump

Countermovement Jump - Loaded

Device

FDMax-1195

✓

Profile

Class Demo

✓

Test Type

CMJ

✓

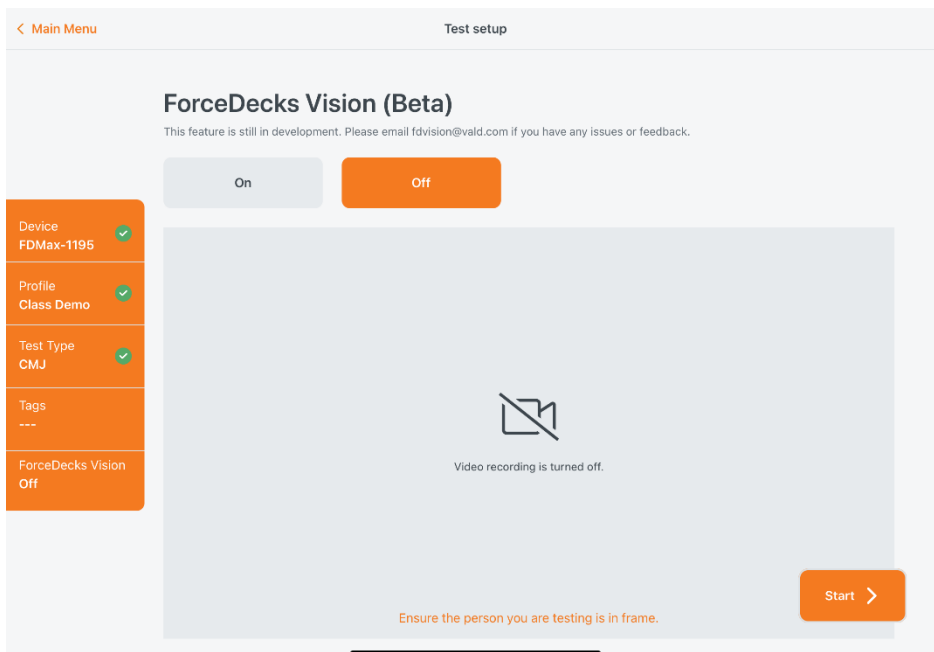
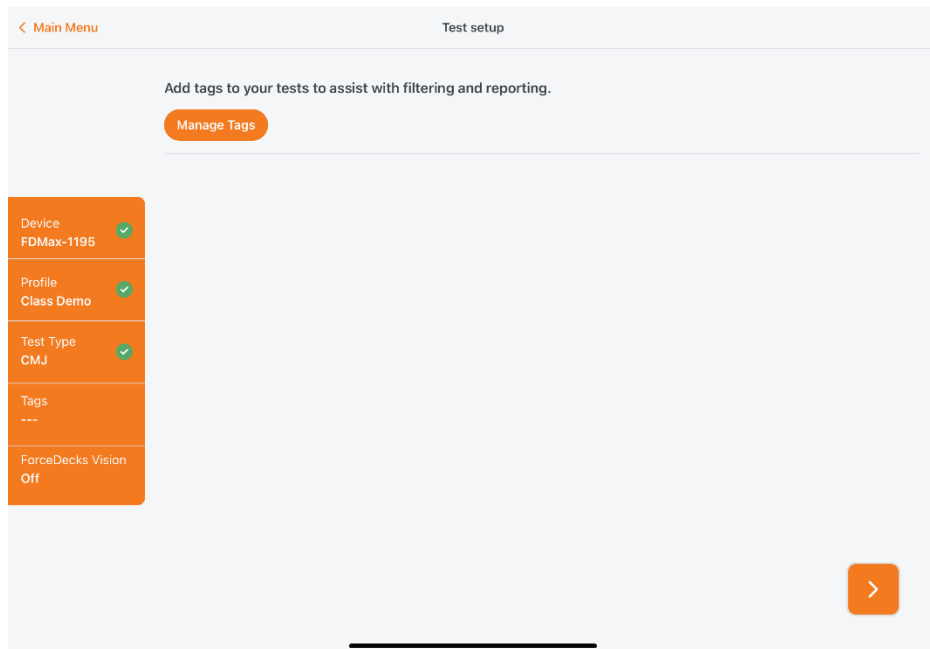
Tags

ForceDecks Vision

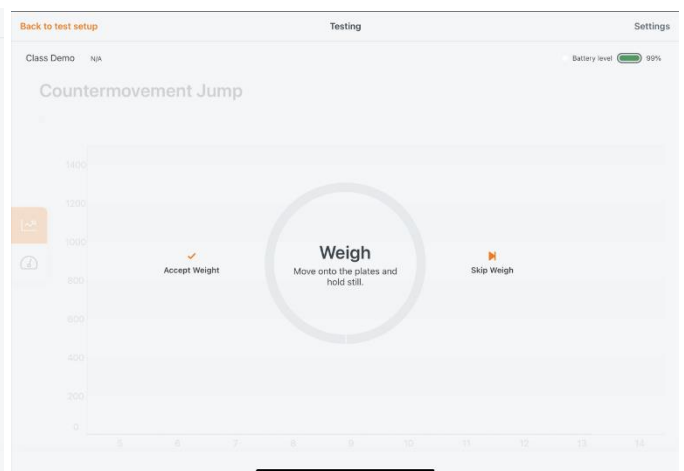
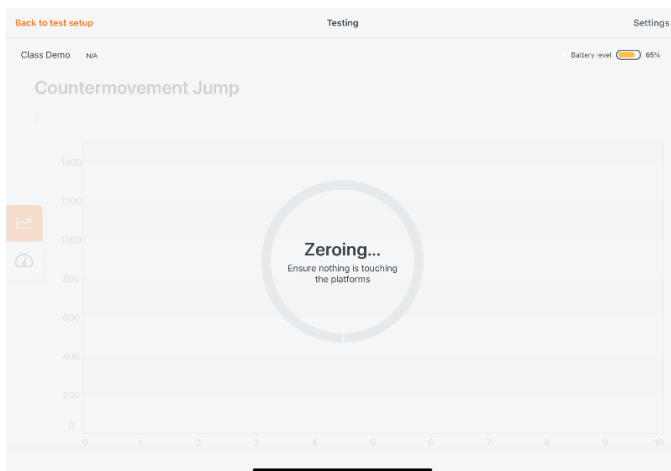
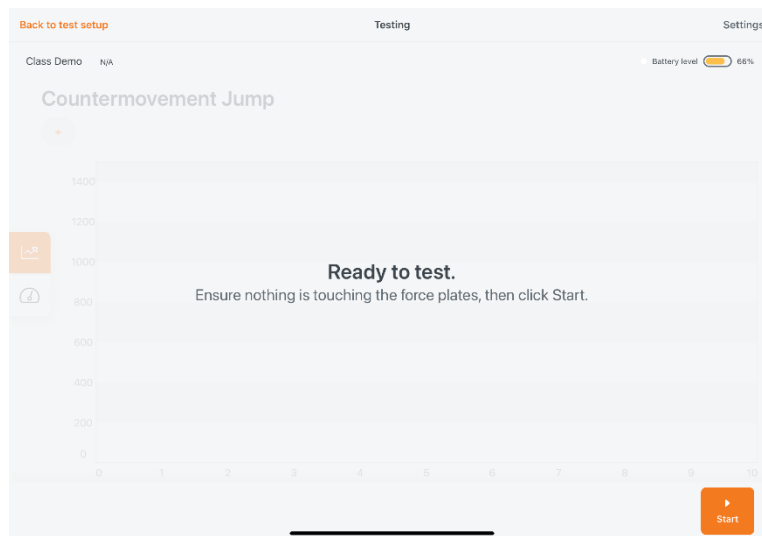
Off

12

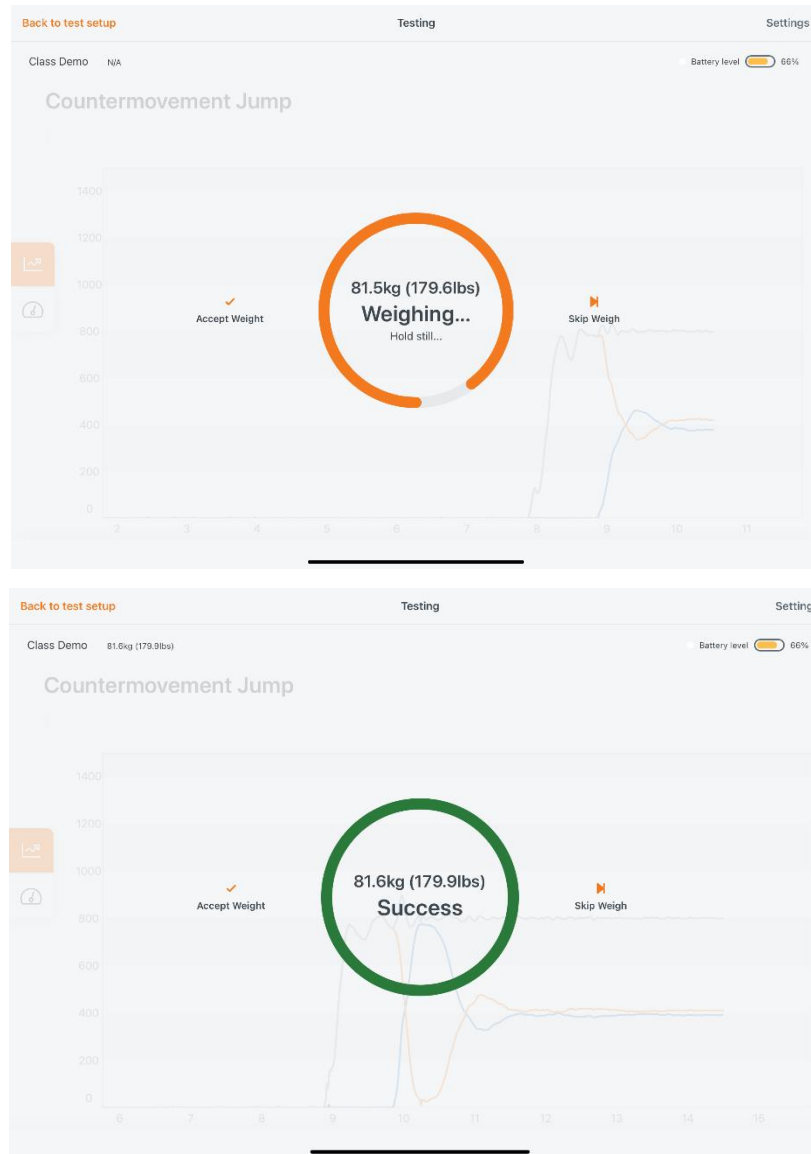
Step 5. Next you will advance to the Manage Tag page to add any notes or tags that you may think would be helpful for you during your data collection. If no tags are needed just click the orange button in the bottom right corner to advance to the ForceDecks vision section. In the ForceDecks vision section make sure “Off” is highlighted and press “Start” to advance to testing.



Step 6. After completing the Test setup, you will make it to the Testing page. It will have the words “Ready to test” displayed on the screen. When ready to being testing, press the “Start” button in the bottom right corner. When you press start, the force plates will say that they are zeroing. Ensure that nothing or no one is touching the force plates until they finish zeroing out for most accurate measurement. When it is done zeroing, it will say “Weigh”.



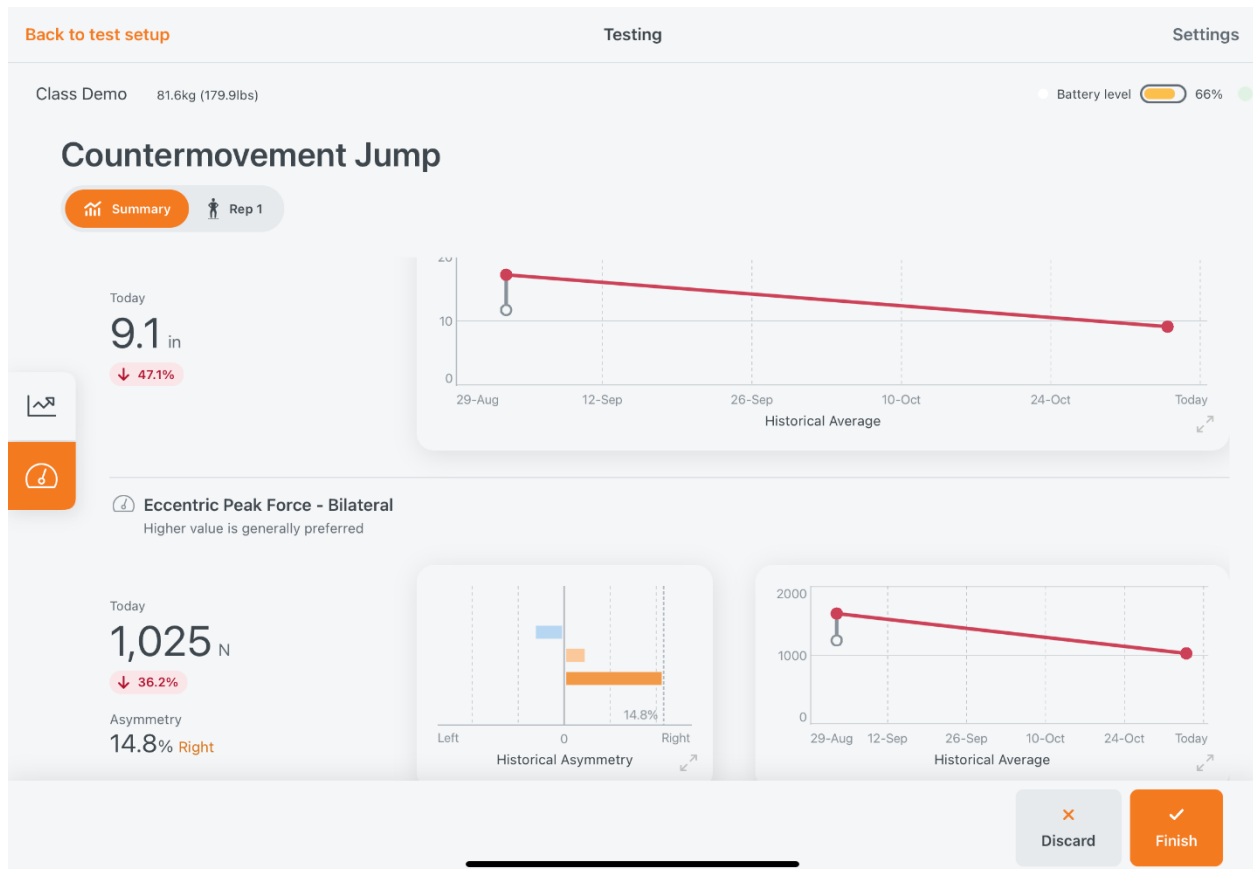
Step 7. You can just “Skip Weigh” if you are only doing quick measurements. For values relative to body weight, ask the athlete to step on the force plates with right foot on primary plate and left foot on secondary plate. Have them stand completely still until orange fill in around circle turns green and says “Success” indicating weigh-in is complete.



Step 8. You will see three lines running continuously across the screen. The grey indicates total body force, orange force is right side body force, blue line is left side body force. Have athlete perform movement, depending on movement selected the ForceDecks will typically recognize the movement pattern needed. Once a successful trial is completed, it will be highlighted in green on the force graph. Also, it will automatically be marked and recorded as one rep by the system. Once you collected your idea number of reps press the stop button at the bottom right corner of the screen.



Step 9. On the left side you will see two icons, the one on top is the force graph in real time. The icon underneath, with the symbol of a speedometer, displays the values recorded from each rep. You can look at the values for each rep collected during the current session. You can go to settings and change the metrics you wish to have displayed during each session. When you are done collecting for the session, press the button labelled “finish” at the bottom right corner of the screen.



Step 10. You will go to a page called “Post Testing Summary” and from there it will have all the reps that were collected during the session. You can select which rep(s) you wish remove by simply pressing the rep and remove the green arrow. This indicates you wish to discard this rep. Once you have all the reps you wish you wish to keep, select up “Upload” in the bottom right corner, and select you are sure you wish to upload. The data selected from the session will be stored for the athlete and uploaded to their profile. If you do not want to save the session at all press “Discard” then select that you are sure, and it will delete the entire session.

[Back](#)Post Testing Summary

Class Demo

[Edit](#)

1 exercises, 1 reps total

Countermovement Jump

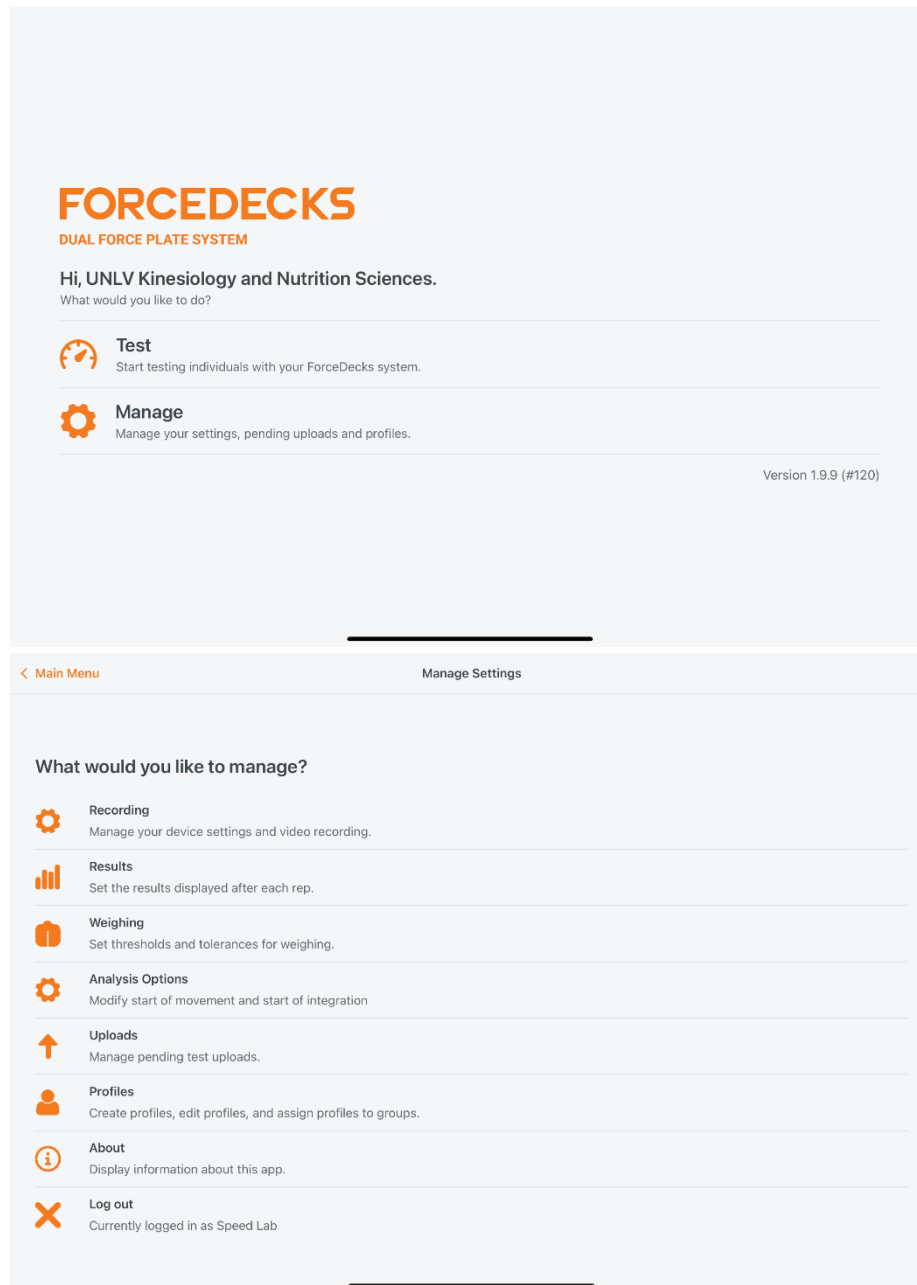
Rep 1

Discard

Upload

CHANGE RESULT METRICS

Step 1. To change the metrics that are displayed during testing, when on the main menu select the tab labelled “Manage”. You will be directed to a list of options asking, “What would you like to manage?”, select the option “Results”.



Step 2. Then you will be prompted to a menu for which test you want to edit. For this document, we will select “Countermovement Jump”. Once you select the type of test, you will advance to the next screen which displays the options of the different values you can select. If you press the “+” symbol next to the metric of choice it will move that metric into the box labelled “Result Tiles” on the right-hand side. This indicates you can see the values of that metric when collecting during a live session. If you wish to remove a metric from “Result Tiles”, press the “-” symbol next to the metric of choice. That metric will return to the box on the left-hand side titled “Select test type to customize result tiles”. Once you have selected your metrics of interest, press “Save” to return to “Manage settings” page.

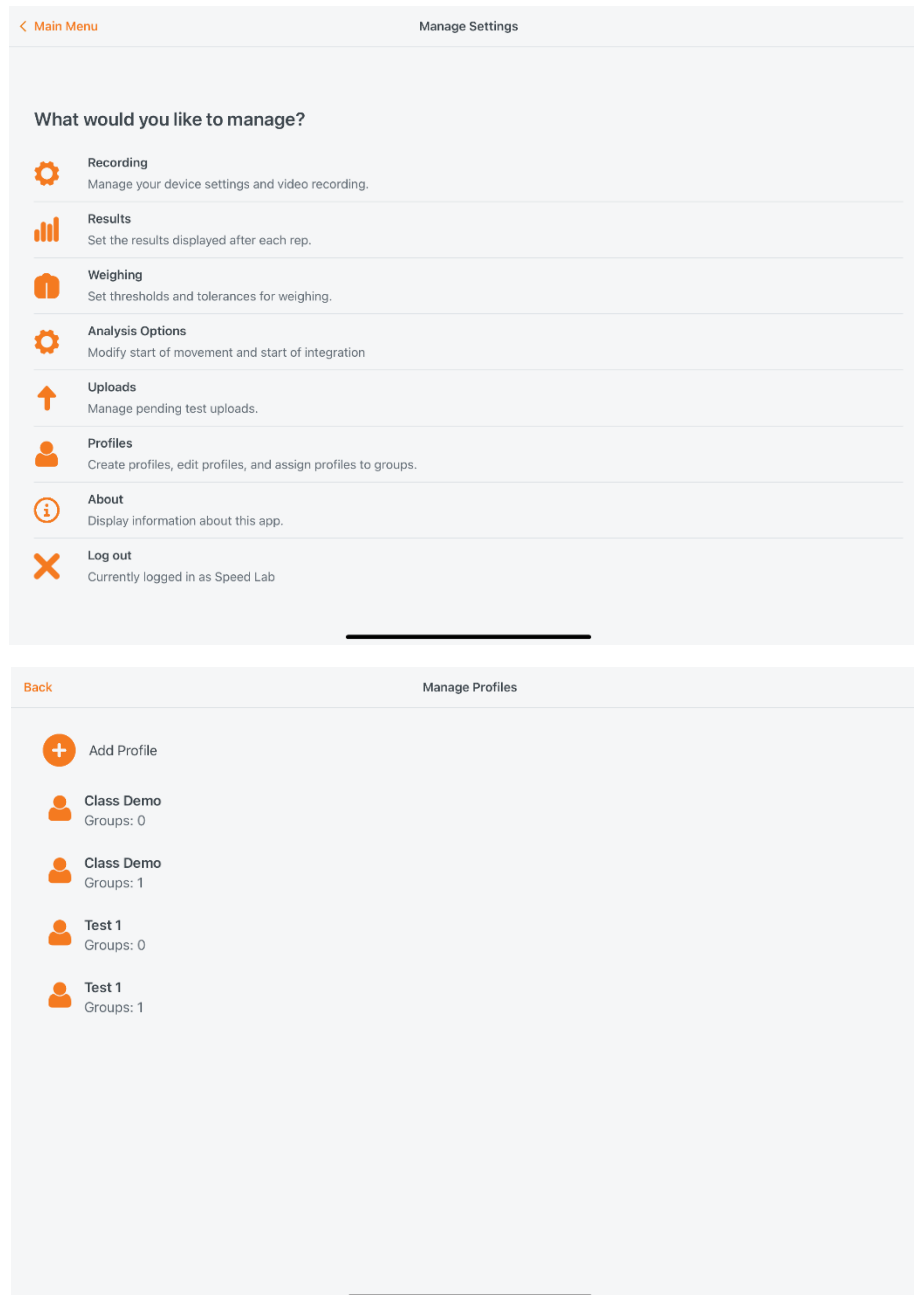
The top screenshot shows a screen titled "Select Test Type" with the instruction "Please select an item". It features a search bar and a list of test types: Abalakov Jump (ABCMJ), Countermovement Jump (CMJ), Countermovement Jump - Loaded (LCMJ), Countermovement Rebound Jump (CMRJ), Drop Jump (DJ), Hop and Return (SLHAR), Hop Test (HJ), and Isometric Belt Squat (IBSQT). A "Cancel" button is at the bottom.

The bottom screenshot shows a screen titled "Result Tile Settings" with a "Back" button and a settings icon. It has a sub-header "Select test type to customise result tiles" and a dropdown menu set to "Countermovement Jump". The screen is divided into two main sections: "Available Results" on the left and "Result Tiles (4)" on the right. The "Available Results" section is further divided into "General Jump Results" and "Performance - Takeoff Phase". The "Result Tiles" section shows four selected metrics, each with a minus sign for removal. A "Save" button is at the bottom right.

Section	Metric	Action
General Jump Results	Athlete Standing Weight [kg]	+
	Auto Weight End [s]	+
	Auto Weight Start [s]	+
	Bodyweight in Kilograms [kg]	+
	Bodyweight in Pounds [lbs]	+
Performance - Takeoff Phase	Braking Phase Duration [ms]	+
	Braking Phase Duration:Concentric Duration [%]	+
	Braking Phase Duration:Contraction Time [%]	+
	CMJ Stiffness [N/m]	+
	Concentric Duration [ms]	+
	Concentric Impulse [N s]	+
Result Tiles (4)	Jump Height (Flight Time) in Inches [in]	-
	Eccentric Peak Force [N] Bilateral Total	-
	Peak Landing Force [N] Bilateral Total	-
	Takeoff Peak Force [N] Bilateral Total	-

CREATE PROFILE

Step 1. To create a profile, in the “Manage Settings” page select the tab labelled “Profiles”. Once selected, you will advance to the next page titled “Manage Profiles”. To create a new profile, press the solid orange circle with the white plus sign in the middle with the word “Add Profile” next to it.



Step 2. On the add profile page, enter the name, select the birth day and gender of the athlete. You must select a group to who the athlete belongs to or create a group to save profile. Once all the information has been completed, (fill in the other areas of information as see fit), select "Create Profile". Once saved the new athlete profile can be used for testing.

←

Add Profile

Given name

First

Family name

Last

Sex ?

Male

Female

Unknown

Date of birth

1992 ▾

Nov ▾

03 ▾

Video recording

☐

Advanced fields

Groups, sports and extra information

☒

Groups

SElcon x ▾

External ID

Optional

Notes

Injuries, activity level etc.

Optional

Cancel

 Create profile

CHARGE FORCEDECKS

Step 1. To charge the battery on the ForceDecks, locate the USB cords and charging blocks that came with the packaging. Locate the charge port labelled "USB/Charge" on the ForceDecks and connect the USB Cable to it. Find a power outlet and plug-in the charging block. It takes approximately 24 hours to charge the Force Decks from completely empty to full.

Sidenote, a light will not activate when connected to charging source if ForceDecks are turned off. Do not be alarmed, they are charging.

