

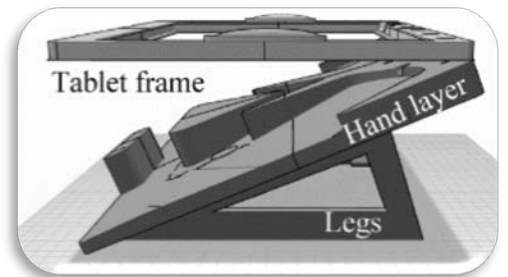
PROPRIOCEPTION TABLET TEST INSTRUCTIONS

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A. Pre-test checklist

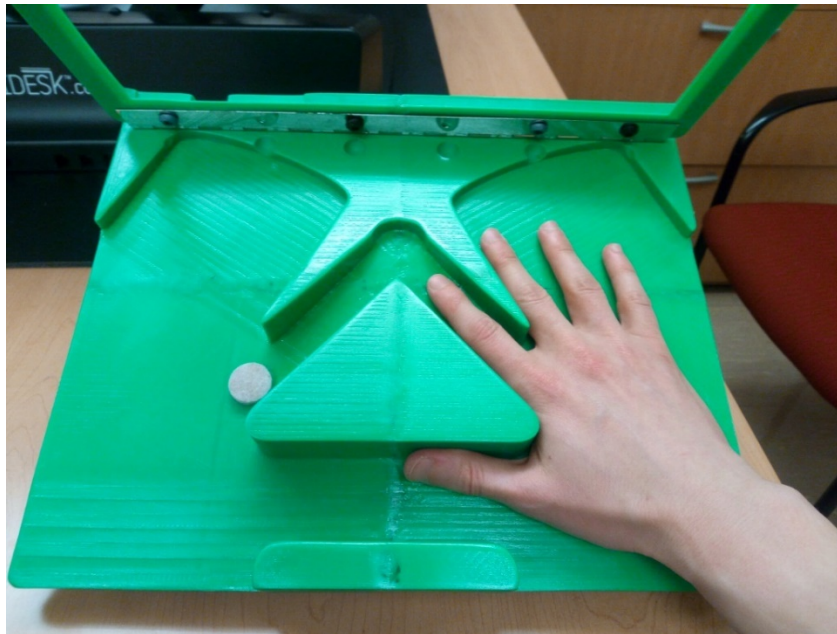
1. Charge tablet.
2. Use soft cloth to clean tablet screen of smudges.
3. Place the stand face-down on a table and extend the legs.
 - If they're stiff, it's easiest to grab the lower part that sticks out slightly, where the rubber pad is.
 - Place the wood pieces as shown and wedge them in until the legs feel stable.



4. Choose a 5-digit subject code (SP___ for stroke patients, CP___ for healthy controls) and decide which hand to start with. Mark this down on the data sheet.

B. Subject positioning

1. Seat the subject in front of desk or table and scoot them as close as comfortable.
2. Tell the subject:
 - **This test will give us information about how your brain perceives where your body is.**
 - **You will see colors on a screen over your hand and make judgments about where your finger is.**
 - **I'm going to position your hand on a stand before we start the test.**
3. Place the empty stand right-side up on the table in front of the subject, centered with their body midline.
4. Tell the subject, **Please close your eyes.**
5. Place their hand on the apparatus, palm-down, with the index finger knuckle on the fuzzy circle, like this:



6. If there is a lot of wiggle room in the index finger trough, pack some gauze around the index finger.
7. The elbow should be bent about 90° and slightly in front of the body, with the forearm resting on the table. The hand should be ~20cm in front of the body and centered with the midline.
8. Control for muscle contraction history. Ask the subject:
 - **Please press down firmly with your index finger and then relax.**
9. Lower tablet frame over hand layer and place the tablet in the frame. Say, **Now you can open your eyes.**

C. Perform the test

1. Start Proprio app on tablet. Enter subject code and choose right or left hand.
2. Press the “start practice” button and guide the subject through the prompts to explain the task.
 - If they seem confused or uncertain, you can read each message aloud to them and press the “next” button.
 - Tell them, **Do you have any questions? The real test will be just like this.**
3. Tell them, **Please keep your hand still during the test.**

4. Press the “start test” button to start the test. Ask the subject to tell you their colour choices, and push the response buttons yourself.
 - If the subject gets confused or the test goes on a long time, especially at small angle changes, you can press the “back” button on the tablet and start over.
 - Watch the trial counter in the lower right corner. Most subjects finish around 20 trials. If it gets up to 40 trials, press the “back” button and start over.
 - If you are at all suspicious the subject was messing around or not doing the task correctly, it is recommended to repeat the test and record both results.
5. When the test ends, write down on the data sheet:
 - Bias
 - Sensitivity
6. If they ask you to explain the results, you can tell them things like:
 - **A negative bias means your brain feels like your finger is slightly to the left of where it really is.**
 - **Sensitivity tells us how certain or precise your perception of your finger is.**
7. Remove their hand from the stand. You can lift up the tablet frame a little to make it easier, but if you need to take out the tablet or lift the frame enough that they would see the hand layer of the stand, ask them to close their eyes first.
8. Repeat steps B4-C7 for the other hand. You can leave the tablet in the frame if the subject is easy to position or there is another experimenter who can hold the tablet layer up while you position the other hand.

D. Troubleshooting

Crashing app	This version of the app has not crashed, but if it does, just close it and start over.
Error during test	<p>If there is a problem during the test that might affect the results, like the subject says something to make you realize they didn’t understand the task, or they pull their hand out for some reason, etc., hit the tablet’s “back” button and “start test” again. The test will start over.</p> <p>If the subject tells you they told you the wrong color and you (or they) have already pressed the button, it’s OK to go on. You can write down the trial number it happened on. If it happens more than once, start the test over.</p> <p>Repeating the test will not overwrite the raw data, even if you use the same subject code and hand. Raw data includes the date automatically, but not the time. I will always assume the last-recorded data with a given subject code and hand on a given date is the correct one to use.</p>
Hinge gets loose	Check and tighten the bolts with the Allen wrench every couple of months.
Legs won’t stay up	In an emergency, you can prop up the hand layer on a 3-ring binder, have someone else hold it up, etc.
New app version to install	<ol style="list-style-type: none"> 1. On the tablet, go to "Settings" > "Application Manager" > "Proprioception." After you click on "Proprioception", push the "Uninstall" button. 2. Plug the tablet into your computer with the charging cable and open it with Windows Explorer. You will see a "Downloads" folder that has "app-debug.apk" in it. Delete that file and put the new apk file there. 3. Unplug the tablet from the computer. 4. On the tablet, go to the "My Files" icon. > "Device Storage" > "Download", and click on the "app-debug.apk" file there. Touch the "install" button.
Raw data is needed	The raw data is stored in a file on the tablet called "records.txt". Connect the tablet to your computer with the Samsung usb cable, and find its "Documents" folder. Inside that folder should be a folder called “proprioception,” which contains "records.txt". You can drag it to a folder on your computer.
Stand parts come unstuck	Superglue!
Uncharged tablet	If you forgot to charge the tablet, you can do the test with it plugged in. There is a hole on the right side of the tablet frame that will accommodate the Samsung cable.