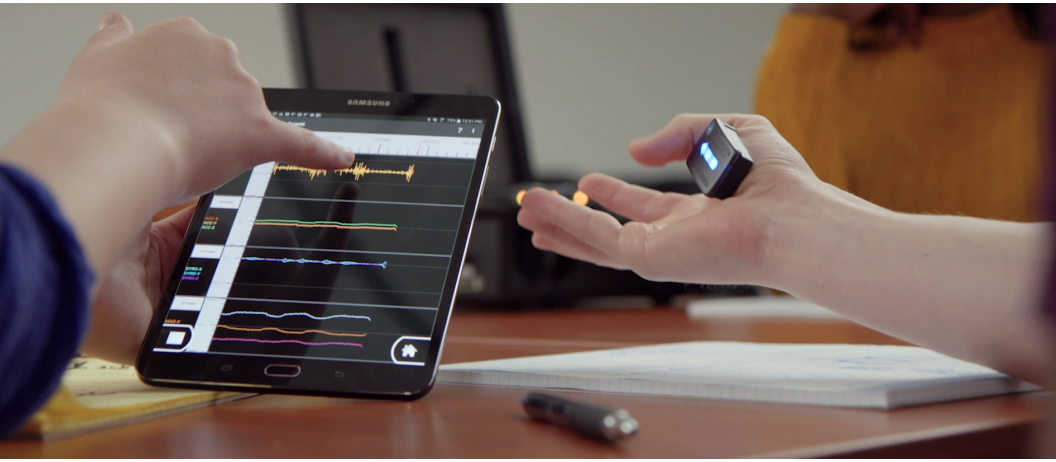
DELSYS

HANDBOOK



Trigno® Avanti Mobile

What is Trigno Avanti Mobile?

Trigno Avanti Mobile (TAM) is an EMG and movement assessment system to be used on the field, in the clinic, in the classroom, or in the lab where portability and quick setup is important.

What is included in the Trigno Avanti Mobile system?

TAM includes your choice of either 2 Avanti sensors or 1 Quattro sensor, a charging station, and a pre-configured Android tablet.

What software does TAM use?

TAM is compatible with Mobile EMG Suite, a collection of Android applications that measure EMG + IMU data while offering biofeedback tools, reporting features, and data logging.

What data does TAM provide?

TAM provides real-time biofeedback and immediate print-ready reports including raw EMG, EMG RMS, IMU data, and muscle comparison ratios.

Who can use it?

TAM can be used by researchers, clinicians, educators, students – anyone interested in EMG and movement assessment tools!

Table of Contents

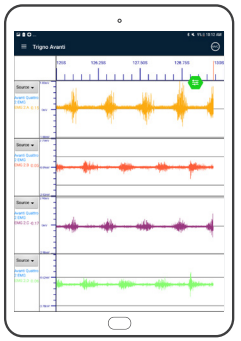
Trigno® Systems and MES software are battery-powered wireless biofeedback devices intended for muscle re-education, relaxation and research purposes.

Mobile EMG Suite

Please refer to the User's Guide for more detailed instruction.
Download at bit.ly/33LmTxD

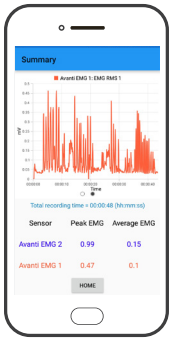
Pre-configured tablet
Apps and settings loaded prior to shipment.

EMG Plots
Real-time EMG and IMU visualization and biofeedback modules.



EMG Reports
Quick reports of muscle activity for muscle comparisons and cyclic tasks.

EMG Logger
Designed for mobile phones, record GPS and heart rate along with EMG + IMU data.



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How to Record and Report Muscle Asymmetries

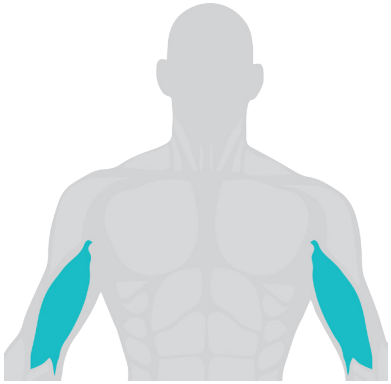
Differences in bilateral muscle performance can be seen in EMG data. The comprehensive reports generated after each session provide information such as RMS values and Mean Value Ratio to compare two muscles.

Overview

Muscle
Biceps brachii

Action
Barbell curl

Outcome
Compare bilateral muscles and show comparison in reports



Equipment Checklist

- 2x Trigno Avanti Sensor
- Charge Station
- Tablet
- EMG Reports App
- Adhesive Interfaces
- Alcohol Prep Pad

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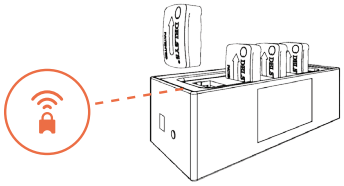
Instructions

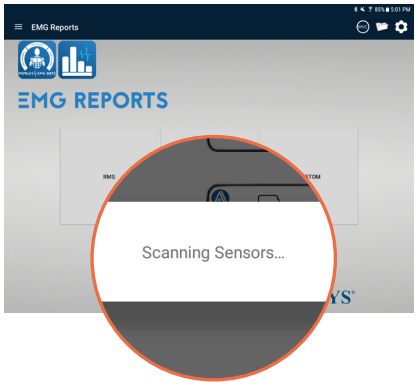
A Remove sensors from charging cradle and touch .

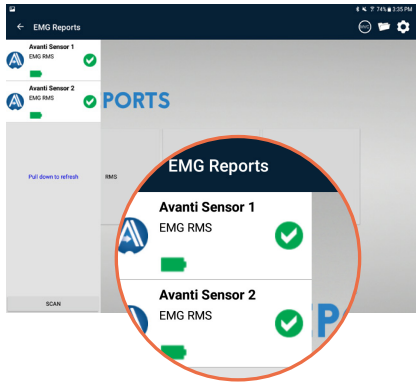


B Open the EMG Reports App.

C Scan for sensors.

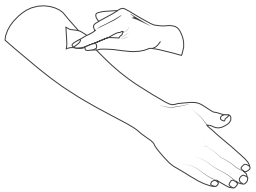
The app will automatically scan for sensors upon opening. Click the Menu ☰ to ensure sensors are successfully scanned. Confirm the green check mark ✓ is selected for sensors that will be recording data.



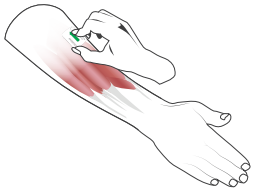


Trigno® Systems and MES software are battery-powered wireless biofeedback devices intended for muscle re-education, relaxation and research purposes.

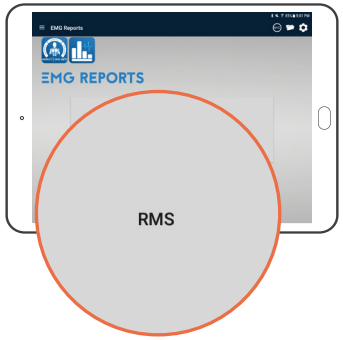
D Clean the shaved muscle sites with an alcohol wipe.



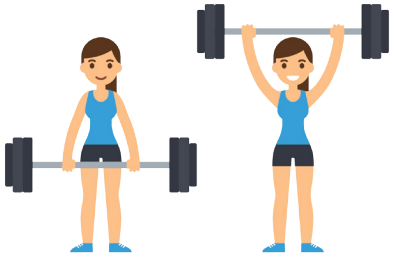
E Place the sensor(s) over the belly of the muscle(s) using Adhesive Interfaces.



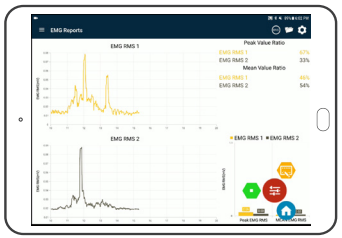
F Open the RMS Module.



G Trial 1: Instruct the subject to perform a task



1. Press Play to preview the signal.
2. Press Save to start recording the data.
3. Press Stop to end recording.



H Apply an intervention.

I Trial 2: Instruct the subject to perform the same task. Repeat steps G1-G3.

J View data in the pop-up window or click Files on the homepage to view all saved data and access export options.

K Open selected trial data. Click to save report as a PDF.

L Compare PDF reports to determine impact of intervention.

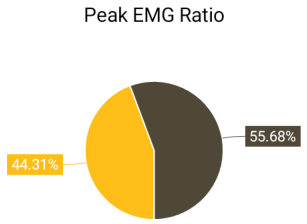
Click Files to view all saved data

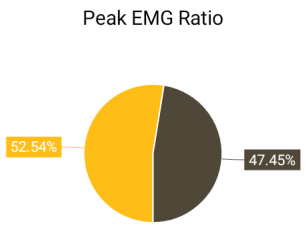
Click to view the data collected in Trial 1.

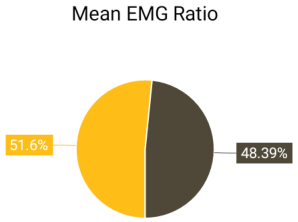
Record the ratio.

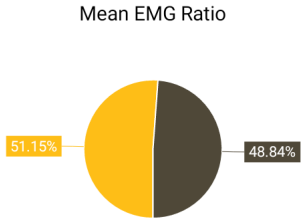
Click to view the data collected in Trial 2

Record the ratio and compare with Trial 1.









Trigno® Systems and MES software are battery-powered wireless biofeedback devices intended for muscle re-education, relaxation and research purposes.

How to Provide EMG Biofeedback

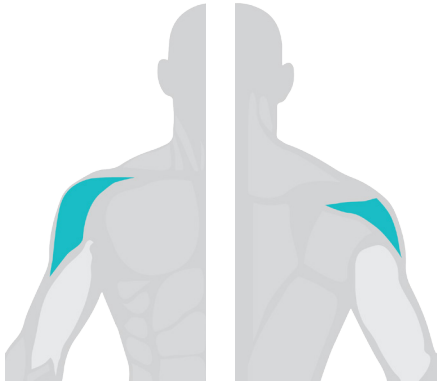
Physical therapy is patient-focused, and progress is dependent on results. The real-time biofeedback features available in TAM are useful tools to help improve clinical outcomes.

Overview

Muscle
Deltoid

Action
Right and left abduction

Outcome
Compare performance with the addition of threshold feedback



Equipment Checklist

- 2x Trigno Avanti Sensor
- Charge Station
- Tablet
- EMG Plots App
- Adhesive Interfaces
- Alcohol Prep Pad

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Instructions

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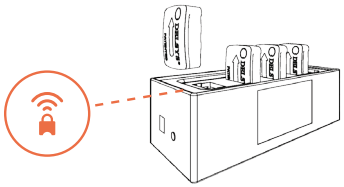
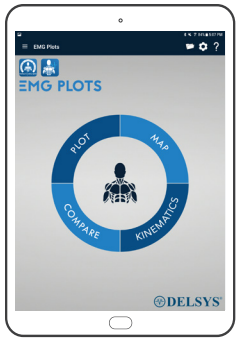
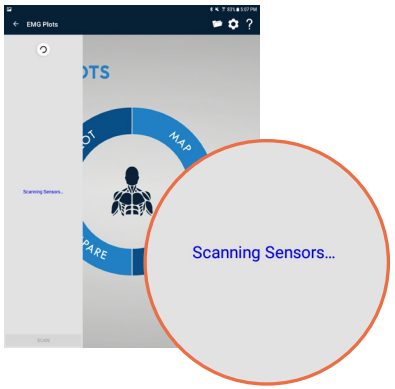


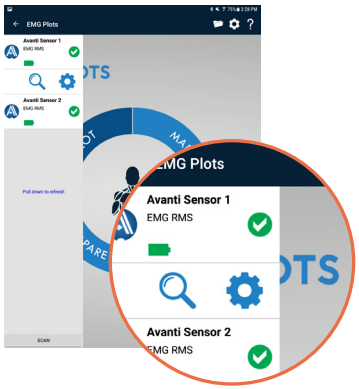
B Open the EMG Plots App.



C Scan for sensors.

The app will automatically scan for sensors upon opening. Click the Menu ☰ to ensure sensors are successfully scanned. Confirm the green check mark ✔ is selected for sensors that will be recording data.





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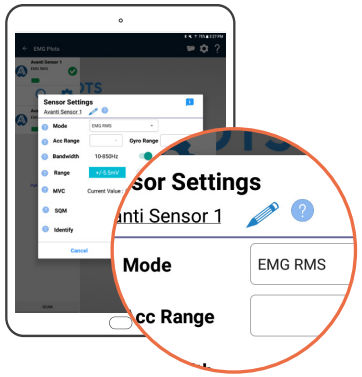
D Set the sensors to EMG RMS mode in the sensor settings.

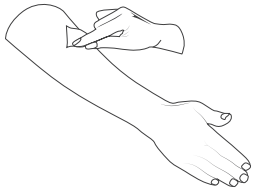
Click the gear in the sensor window to access settings.

Click the Mode dropdown menu for options.

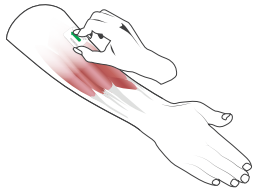
Select EMG RMS.



E Clean the shaved muscle sites with an alcohol wipe.



F Place the sensor(s) over the belly of the muscle(s) using Adhesive Interfaces.



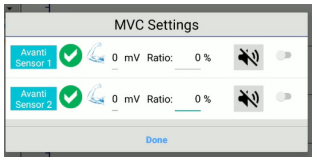
G Open the Plots Module.

H Press Play to preview the signal.
Instruct subject how to perform a bilateral movement (ex. shoulder abduction) and show them how the EMG trace changes with the movement.

I Press Stop to end the preview.

J Follow the guided MVC tool to set a threshold.

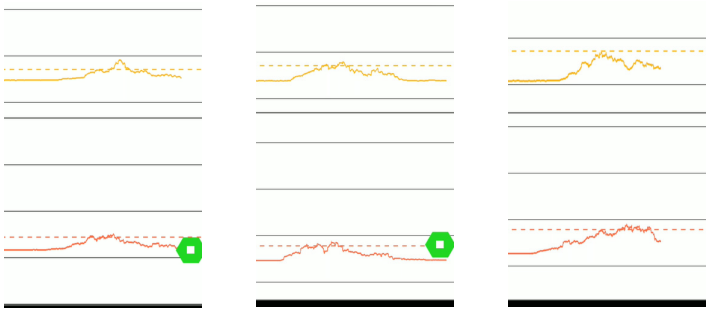
Threshold	
A	Start
B	A + 20 %
C	B + 20 %



K Press Save to start recording the data.

Provide subject with instructions such as:
"Try to reach the threshold line while abducting both shoulders simultaneously"

Once the threshold is reached, click and drag the threshold line to move it towards the next desired threshold.



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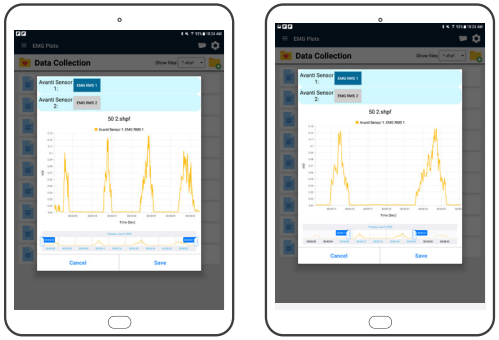
L Press Stop or Save to end the recording.

M View data in the pop-up window or click Files on the homepage to view saved data and access export options.

N Open the data file to view the collected signal of each muscle.

O Scroll to identify a certain portion of the trial.

P Click 'Save' to create a PDF.



How to Record Workplace Performance

Ergonomics involves the measurement of workplace activities to ensure safety and efficiency. The EMG Logger app of the Mobile EMG Suite is ideal for recording long durations when the signal does not need to be monitored. Additionally, the quick setup and portability of the Trigno Avanti Mobile system allows measurement of movement activities in a variety of work environments.

Overview

Muscle
Erector spinae and trapezius

Action
Box lifting

Outcome
Log EMG data to gather information about task performance

Equipment Checklist

2x Trigno Avanti Sensor	EMG Reports App
Charge Station	Adhesive Interfaces
Tablet	Alcohol Prep Pad

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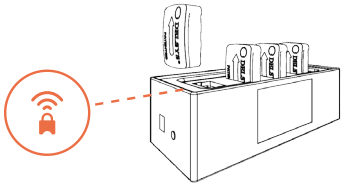
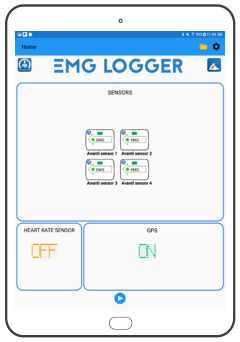
Instructions

A Remove sensors from charging cradle and touch .

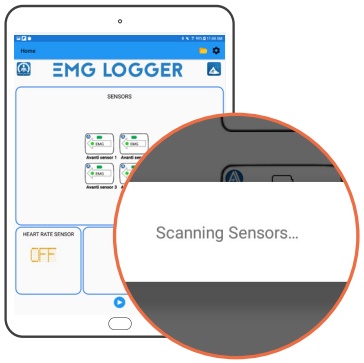


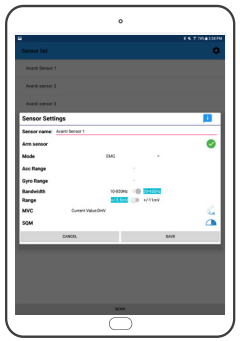
B Open the EMG Logger App.



C Scan for sensors.

The app will automatically scan for sensors upon opening. Click the Menu to ensure sensors are successfully scanned. Confirm the green check mark is selected for sensors that will be recording data.





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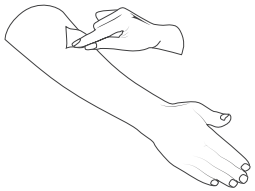
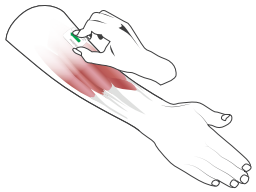
D Clean the shaved muscle sites with an alcohol wipe.



E Place the sensor(s) over the belly of the muscle(s) using Adhesive Interfaces.

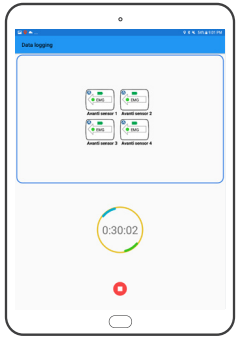


F Instruct subject on how to perform the task.

G Press Play to start recording.

H Press Stop to end recording.

I View data in the pop-up window or click Files on the homepage to view all saved data and access export options.



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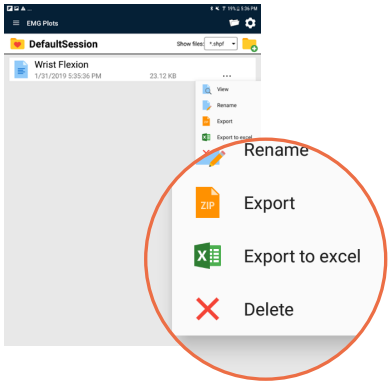
How to Export EMG + Force Data

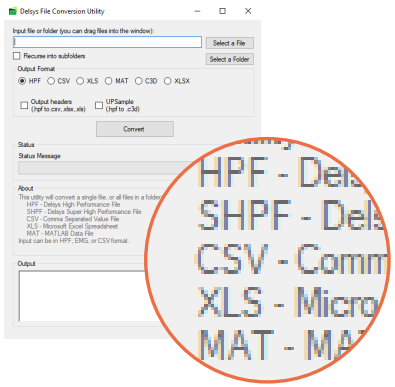
OPTION 1
Export on Tablet

Click the icon in the top right, find your file, click •••, and select your preferred option for data management and export.



OPTION 2
Export on PC

Use the Delsys File Utility to convert the SHPF file into an HPF file for upload into EMGworks or export into another desired format.



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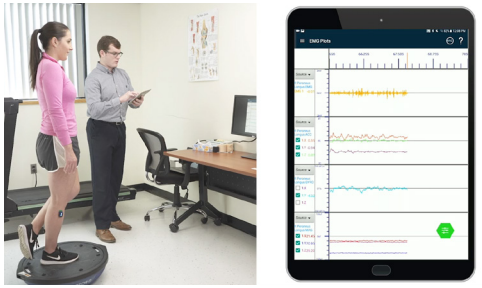
Video Examples

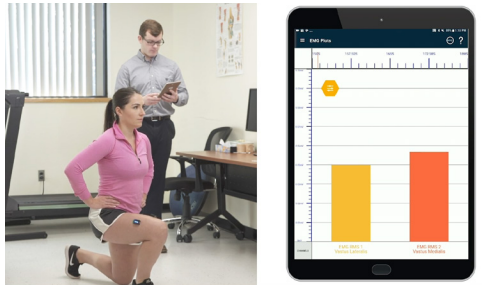
Balance Training & Performance

The visual biofeedback of EMG + IMU data allows subjects to focus on areas of instability to improve balance.



Assessing Muscular Imbalance

Compare muscle activity with real-time feedback and ratio values generated in the post-session report.



Targeted Gait Analysis

Track post-injury rehabilitation progress using built-in IMU data to track movement and compare EMG data.

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