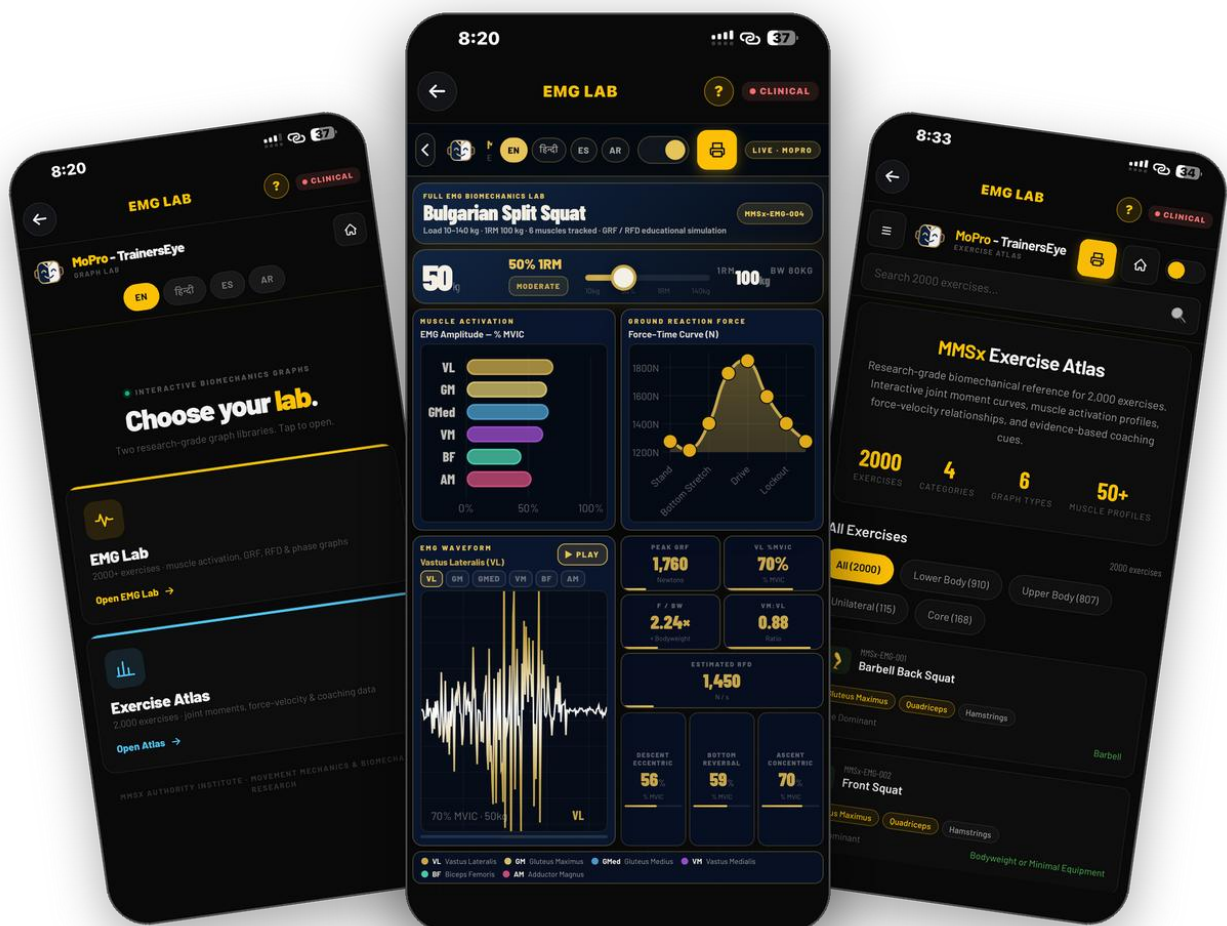


USER GUIDE

EMG Lab

Two research-grade graph libraries – muscle activation and force in the EMG Lab, joint kinetics and coaching data in the Exercise Atlas.

How to use the tool, step by step – in the TrainersEye app



What is EMG Lab?

EMG Lab is the TrainersEye Graph Lab — two interactive biomechanics libraries behind one door. The EMG Lab holds 2,000 exercises organised by movement pattern; each opens a full lab where you set the load and watch muscle activation, ground reaction force, the EMG waveform and rate of force development respond. The Exercise Atlas holds the same 2,000 exercises as a research-grade reference — joint moment and power curves, muscle profiles, force-velocity behaviour and coaching cues — and prints each one as an A4 Applied Biomechanics Exercise Profile. Every graph is an educational simulation modelled by MMSx Authority Institute, not a measurement of any individual.

Two labs, one door

EMG Lab for activation, force and phases;
Exercise Atlas for joint kinetics, muscle profiles
and coaching cues.

2,000 exercises each

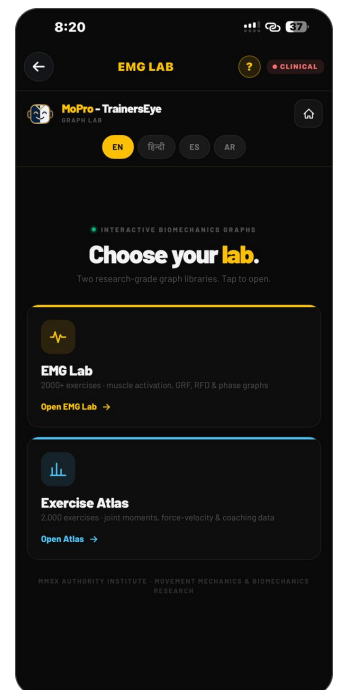
Fifteen movement-pattern categories in the
EMG Lab; lower body, upper body, unilateral and
core in the Atlas.

Set the load, watch it respond

Slide from 10 to 140 kg and every graph and
number updates — activation, GRF, RFD and the
phase profile.

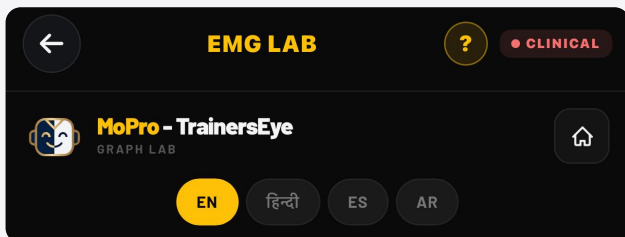
A4 reference documents

Every Atlas exercise prints as an Applied
Biomechanics Exercise Profile with a document
ID and verify code.



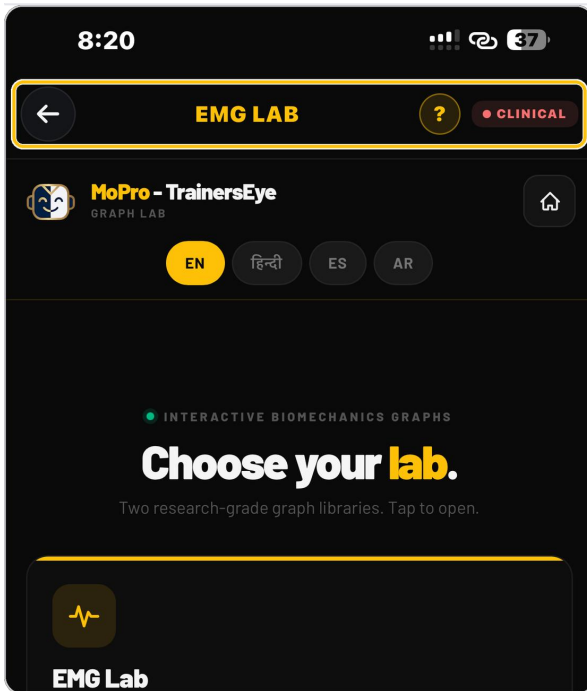
Where to find it

Open the TrainersEye app, go to the Dashboard and tap EMG Lab. It is a Clinical-plan tool — the CLINICAL badge sits beside the title.



This guide in thirteen steps

- 1 Open the tool
- 2 Choose your language
- 3 Choose your lab
- 4 The EMG Lab index
- 5 Find an exercise
- 6 Read the exercise card
- 7 Open the full lab and set the load
- 8 Read the graphs
- 9 Read the numbers
- 10 The Exercise Atlas
- 11 Browse by category
- 12 Read the exercise profile
- 13 Print or save the document


PART 1 · GETTING STARTED

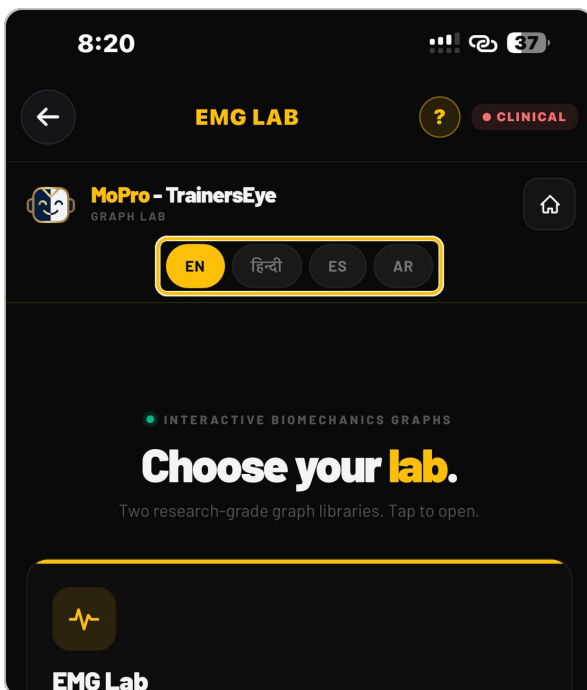
STEP 1

Open the tool

From the Dashboard, tap EMG Lab. It is a Clinical-plan tool — the CLINICAL badge sits beside the title, with the question mark for help.

TIP

The back arrow at the top left returns you to the Dashboard from any screen; the question mark opens help on every screen.


PART 1 · GETTING STARTED

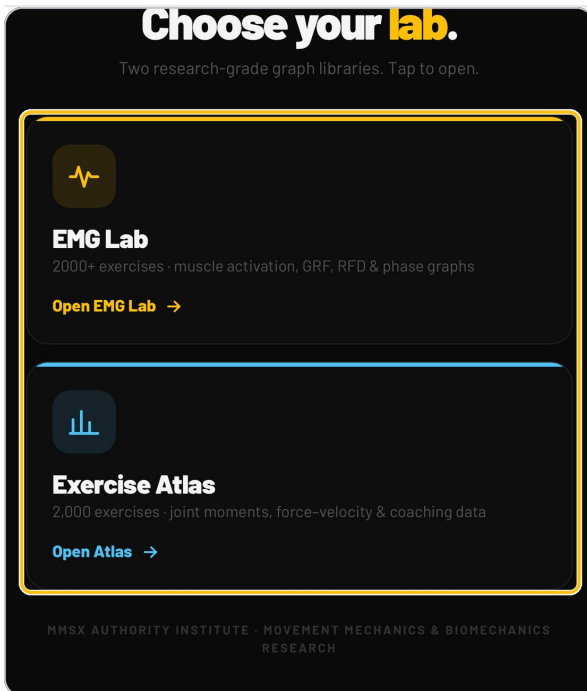
STEP 2

Choose your language

Pick English, Hindi, Spanish or Arabic with the pills under the MoPro header. Every lab page repeats the same pills, so you can switch at any point.

TIP

Switch as often as you like — the pills sit at the top of the index, the lab and the Atlas alike.

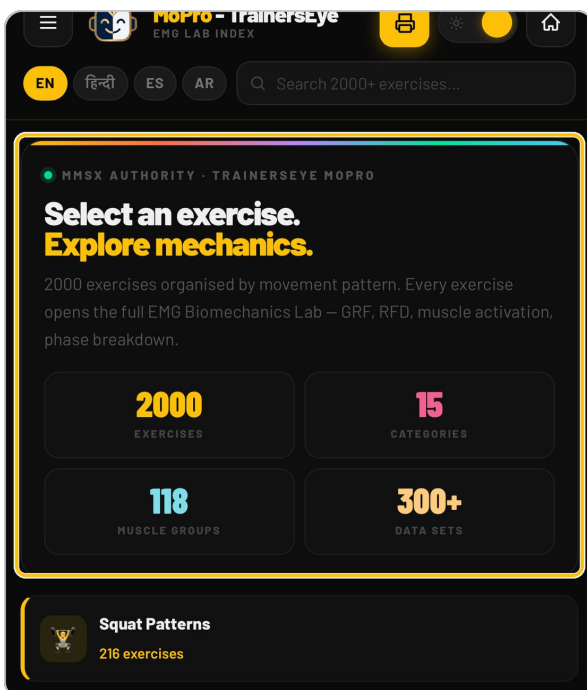

PART 1 · GETTING STARTED
STEP 3

Choose your lab

Two cards: EMG Lab – 2,000 exercises with muscle activation, GRF, RFD and phase graphs – and Exercise Atlas – 2,000 exercises with joint moments, force-velocity and coaching data. Tap Open on the one you need.

TIP

Start in the EMG Lab to see how a movement loads the muscles; go to the Atlas for the printable reference profile.

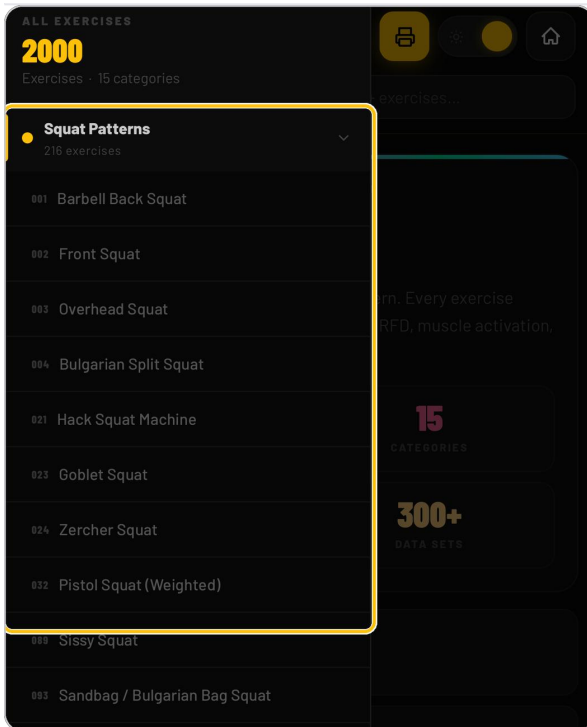

PART 2 · EMG LAB
STEP 4

The EMG Lab index

The index opens on the library numbers – 2,000 exercises, 15 categories, 118 muscle groups, 300+ data sets – above the movement-pattern cards, from Squat Patterns to Shoulder & Overhead. The bar at the top holds the menu, the printer, the sun/moon look switch, home, the language pills and the search box.

TIP

Each pattern card shows how many exercises it holds, so you can see where the depth is before you open it.


PART 2 · EMG LAB

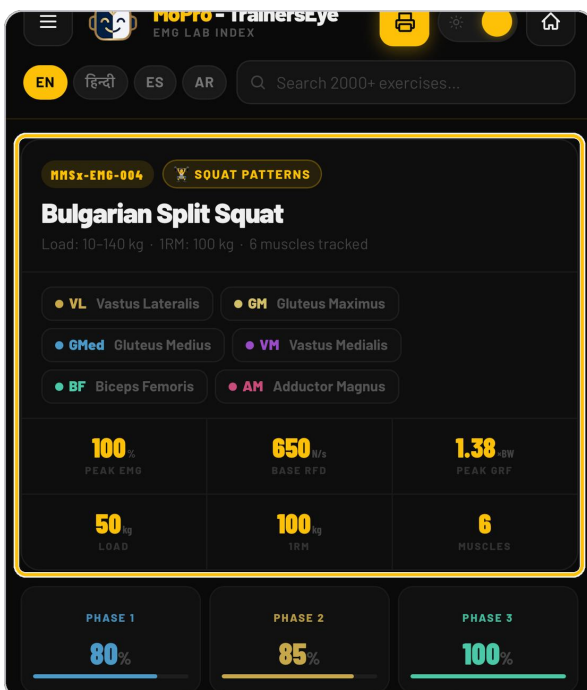
STEP 5

Find an exercise

Tap a pattern card, or open the menu to browse every category and its numbered exercises — 001 Barbell Back Squat, 002 Front Squat and so on. Type a name into Search 2000+ exercises to jump straight to it.

TIP

The three-digit number is the exercise's place in the library and matches its MMSx-EMG code.


PART 2 · EMG LAB

STEP 6

Read the exercise card

Each exercise opens on a summary card: its MMSx-EMG code and category, the load range and 1RM, the muscles tracked, then peak EMG, base RFD, peak GRF and the three phase intensities. The scope line under the card states that the values are an educational simulation.

TIP

Tap Back to return to the list, or Open EMG Lab to go into the full lab.

PART 2 • EMG LAB
STEP 7

Open the full lab and set the load

Open EMG Lab takes you into the full biomechanics lab. Drag the load slider — 10 kg to 140 kg — and the load, its percentage of 1RM and its intensity label update, with the 1RM and body weight shown beside it.

TIP

Try the same exercise at 30, 50 and 80 per cent of 1RM and watch how activation and force change with load.

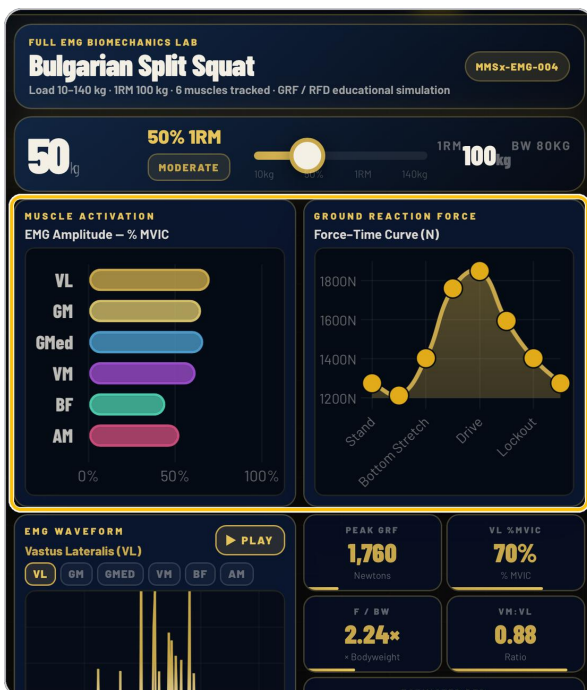

PART 2 • EMG LAB
STEP 8

Read the graphs

Muscle Activation shows EMG amplitude as a percentage of MVIC for each tracked muscle. Ground Reaction Force draws the force-time curve through stand, bottom stretch, drive and lockout. Below, the EMG Waveform panel lets you pick a muscle and press Play to run the burst.

TIP

Each muscle keeps the same colour in every panel and in the legend at the foot of the lab.



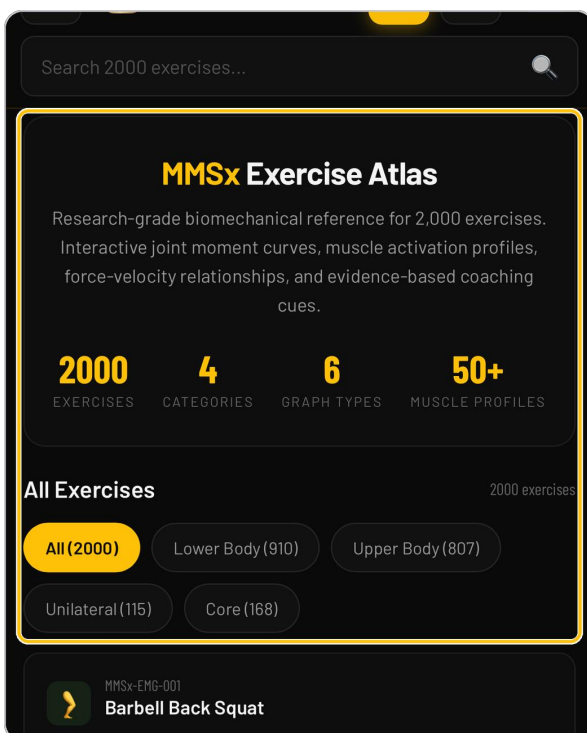

PART 2 · EMG LAB
STEP 9

Read the numbers

The tiles on the right give peak GRF in newtons, the lead muscle's %MVIC, force as a multiple of body weight, the VM:VL ratio and the estimated rate of force development, then the phase profile — descent, bottom reversal and ascent — each as %MVIC.

TIP

Compare ratios and phase profiles across exercises rather than reading one exercise's numbers as absolute values.

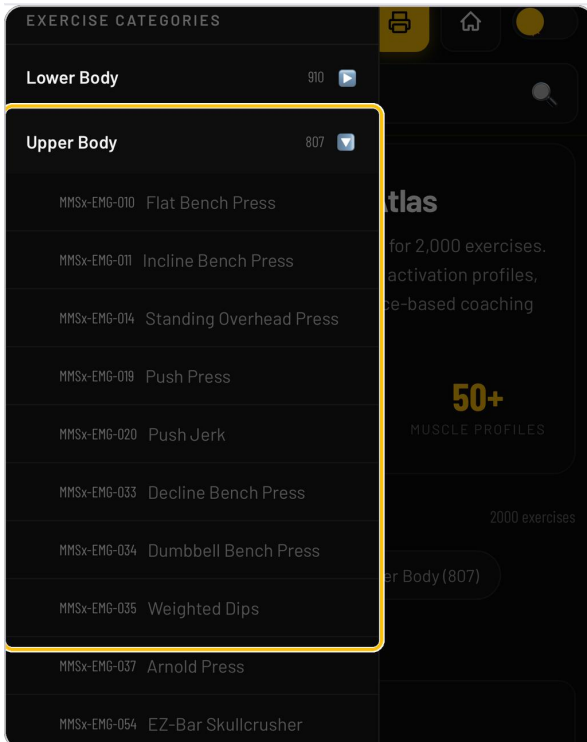

PART 3 · EXERCISE ATLAS
STEP 10

The Exercise Atlas

The Atlas opens on its own index: 2,000 exercises, four categories, six graph types and 50+ muscle profiles. Filter the list with All, Lower Body, Upper Body, Unilateral or Core, or use the search box; every card shows the exercise's code, its main muscles, its pattern and its equipment.

TIP

Unilateral collects the single-leg and single-arm work from every region in one place.

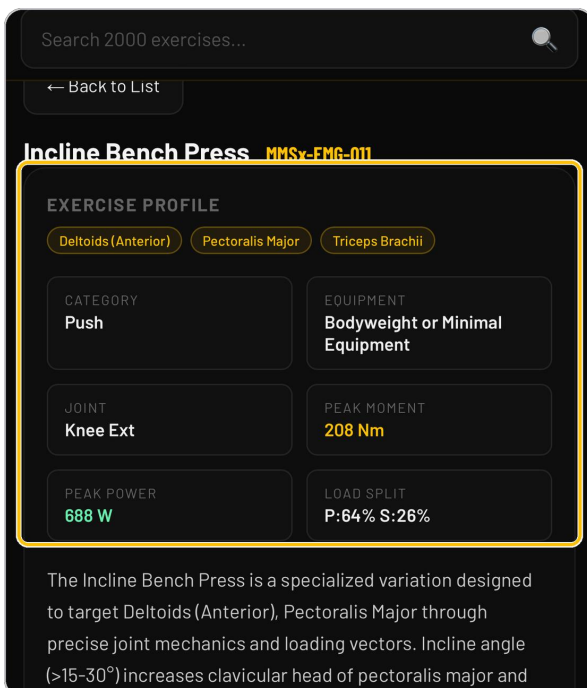

PART 3 · EXERCISE ATLAS
STEP 11

Browse by category

Open the menu to see the four categories with their counts, then expand one to list its exercises with their MMSx-EMG codes — Flat Bench Press, Incline Bench Press, Standing Overhead Press and so on. Tap an exercise to open it.

TIP

The same MMSx-EMG code identifies an exercise in both labs, so you can move between them.


PART 3 · EXERCISE ATLAS
STEP 12

Read the exercise profile

Each exercise opens on its profile: the muscles, category, equipment, joint, peak moment in newton-metres, peak power in watts and the primary/secondary load split, with a short mechanics description. Scroll down for the six graphs — joint moment, joint power, muscle activation, force-velocity, load distribution and range of motion.

TIP

Back to List returns you to the filtered index without losing your place.

PART 4 · PRINT AND SHARE

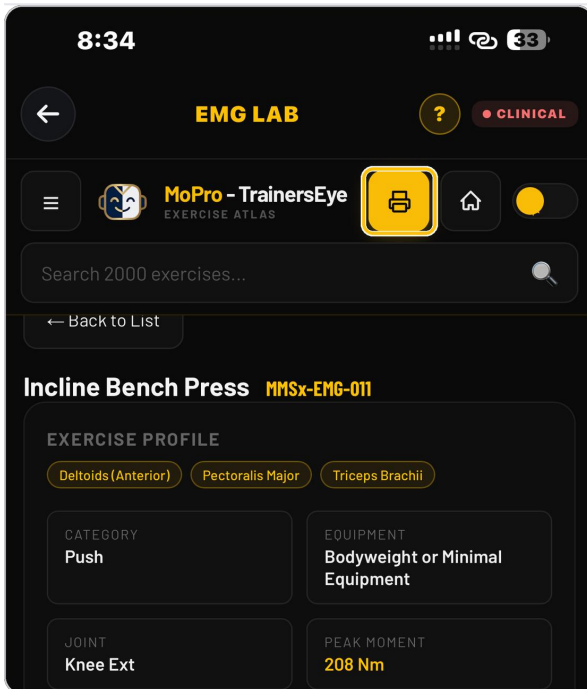
STEP **13**

Print or save the document

Tap the printer button to lay the exercise out as an A4 Applied Biomechanics Exercise Profile — plate, profile, description, joint moment and power curves and coaching cues — then use the phone's print sheet to print it, save it as a PDF or share it.

TIP

Each document carries its own ID, issue date and verify code, so a copy can be traced back to the library.

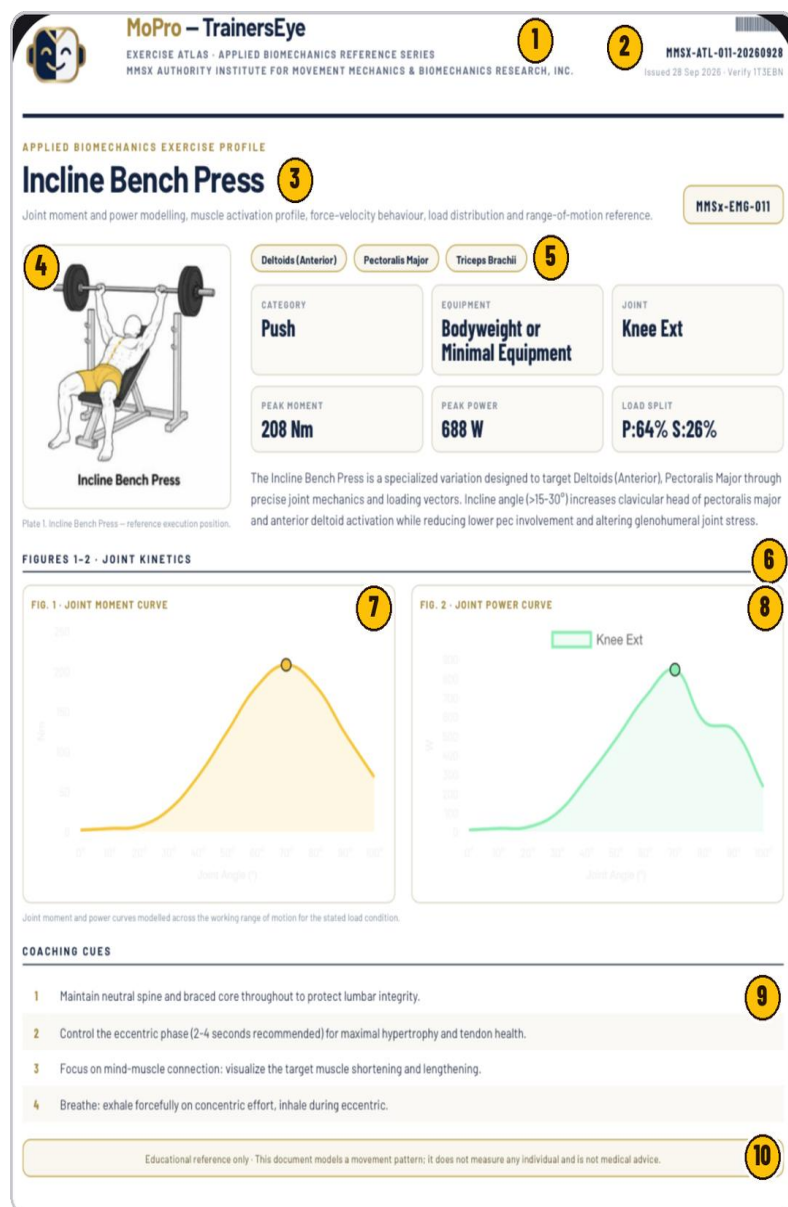


You're ready

That's it. Open EMG Lab and explore the mechanics of any exercise.

Reading the Atlas document

Every Atlas exercise prints as one A4 Applied Biomechanics Exercise Profile. Here is what each part means.



- 1 Masthead**
MoPro – TrainersEye, the Exercise Atlas Applied Biomechanics Reference Series and the MMSx Authority Institute name.
- 2 Document ID and verify code**
MMSX-ATL, the exercise number and the issue date, with the date issued and a verify code.
- 3 Title and exercise code**
The exercise name, what the profile models, and its MMSx-EMG code.
- 4 Reference plate**
The exercise in its reference execution position.
- 5 Muscles and profile grid**
Main muscles, then category, equipment, joint, peak moment, peak power and the load split.
- 6 Mechanics description**
How the variation targets its muscles through joint mechanics and loading vectors.
- 7 Fig. 1 - Joint moment curve**
Moment in newton-metres across the working range of joint angle, peak marked.
- 8 Fig. 2 - Joint power curve**
Power in watts across the same range, with the joint it models.
- 9 Coaching cues**
Four numbered cues for executing the exercise well.
- 10 Educational reference line**
The document models a movement pattern; it does not measure any individual and is not medical advice.

Move with **Precision.** Live with **Confidence.**

EMG LAB IS PART OF TRAINERSEYE

Support: support@trainerseye.com · trainerseye.com

Powered by the MMSx Authority graph libraries · Backed by MMSx Authority Institute

Educational simulation — every value is modelled, not measured. Not diagnostic EMG, force-plate or clinical data, and not medical advice.