

Therapalm

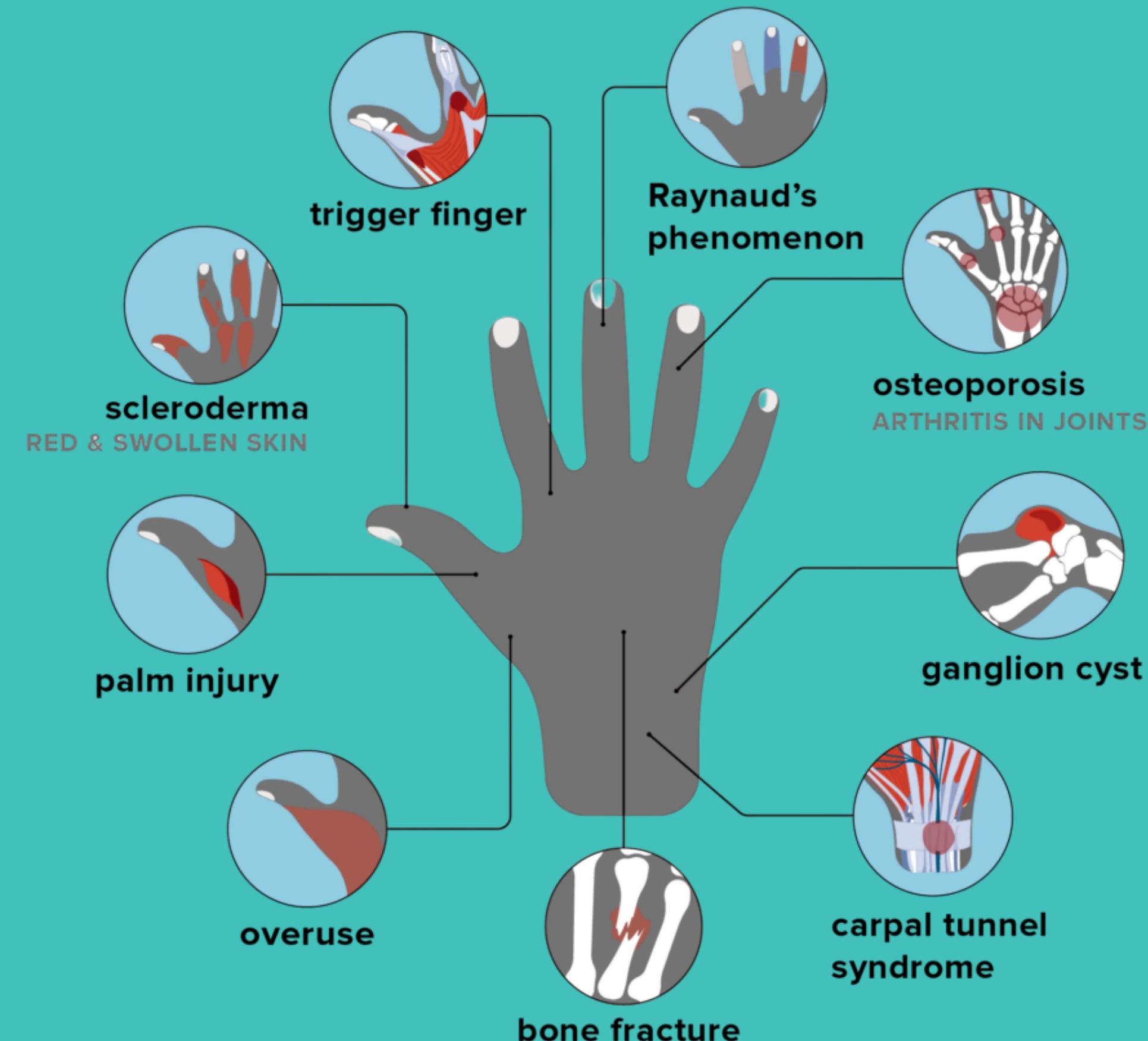
COMFORT YOU CAN FEEL. RELIEF YOU CAN TRUST.

Catherine Ward, Wenyue Wu, Enes Sissenbi

CHRONIC JOINT PAIN IN THE HANDS

Common Hand Injuries

What can cause hand pain



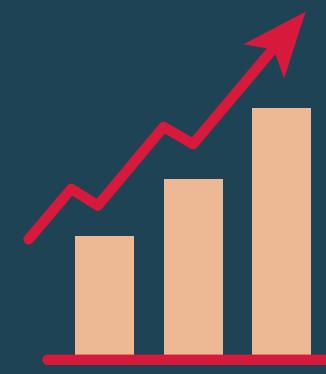
WIDESPREAD & GROWING IMPACT



**58.5M+ U.S. adults
have arthritis**



**By age 85, 50% of women
& 25% of men get hand
osteoarthritis.**



**Hand arthritis therapy
market grows 6.8%
annually.**

Meet Asa.



Morning

- wakes up, takes medication to help with hand movement
- gets dressed, puts on makeup, brushes hair



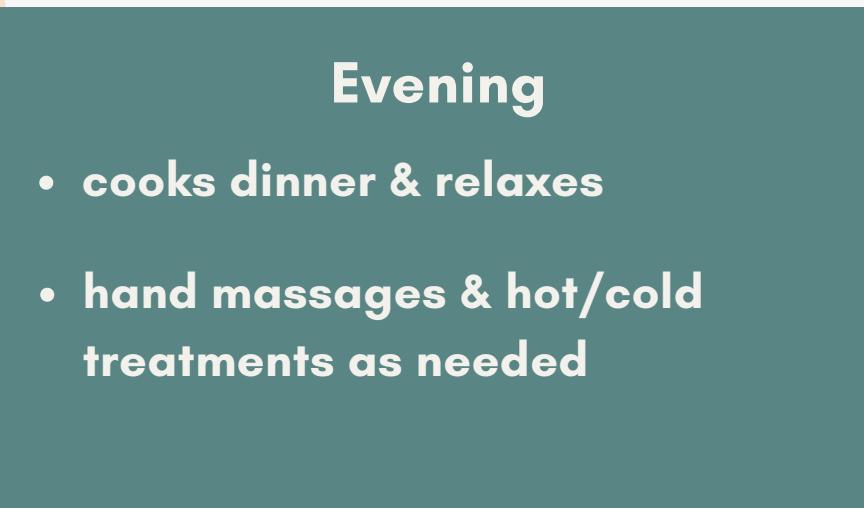
Afternoon

- attend meetings, complete work-related tasks
- often hand-drawing designs for hours



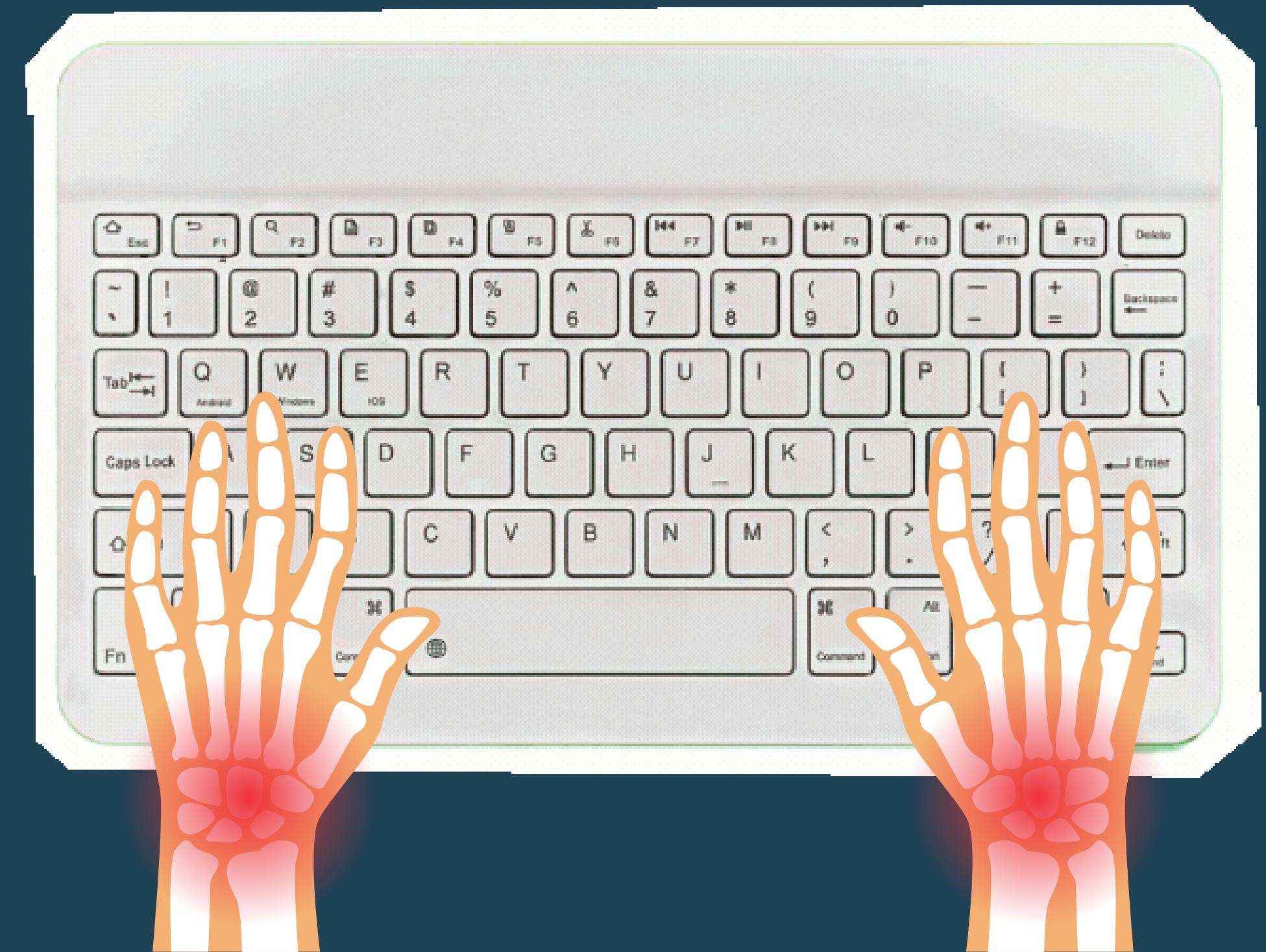
Evening

- cooks dinner & relaxes
- hand massages & hot/cold treatments as needed



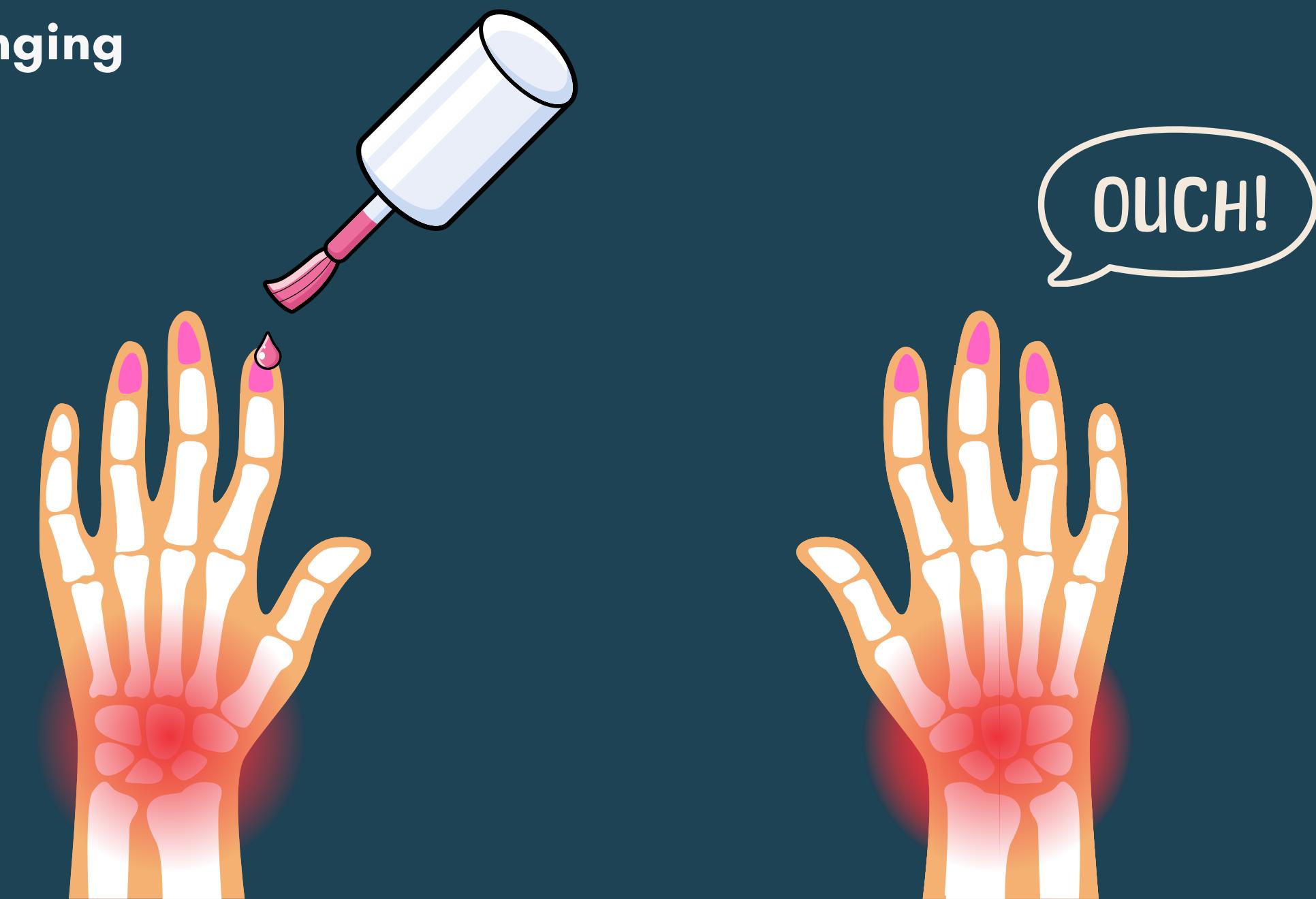
- 29 years old, works as an interior designer in Chicago
- suffers from **psoriatic arthritis** in her hands - her fingers are **frozen in place like concrete**
- struggles with everyday tasks like painting her nails or holding a pen
- **it's just too painful**
- wishes she had something to help his hands rest and rejuvenate, relieving some of the constant pain she feels

A BAYLY DTRUGGLESX



A DAILY STRUGGLE

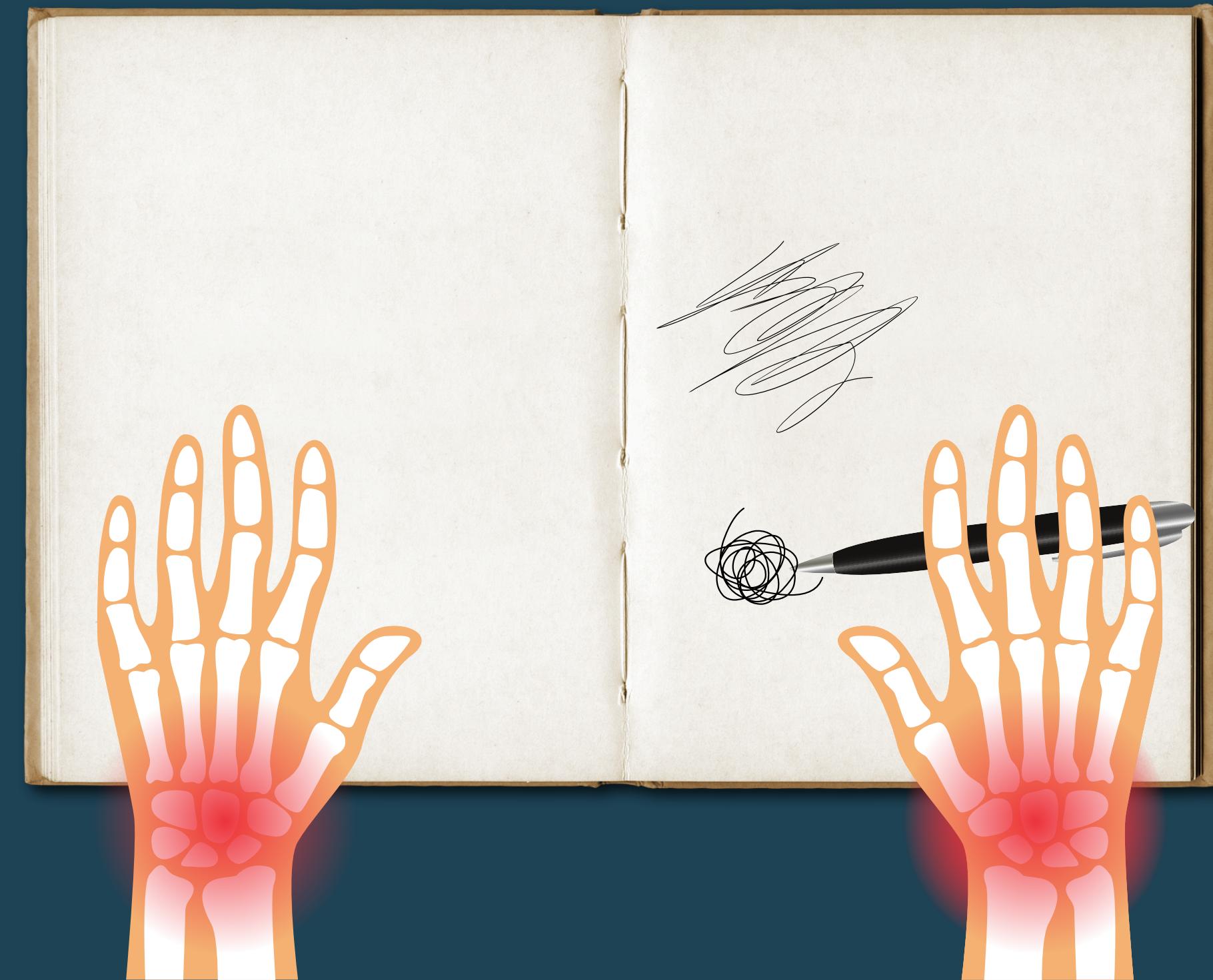
Asa LOVES getting her nails done! But it's
painful & challenging



A DAILY STRUGGLE

pressure on her joints

causes stiffness



CURRENT MARKET SOLUTIONS

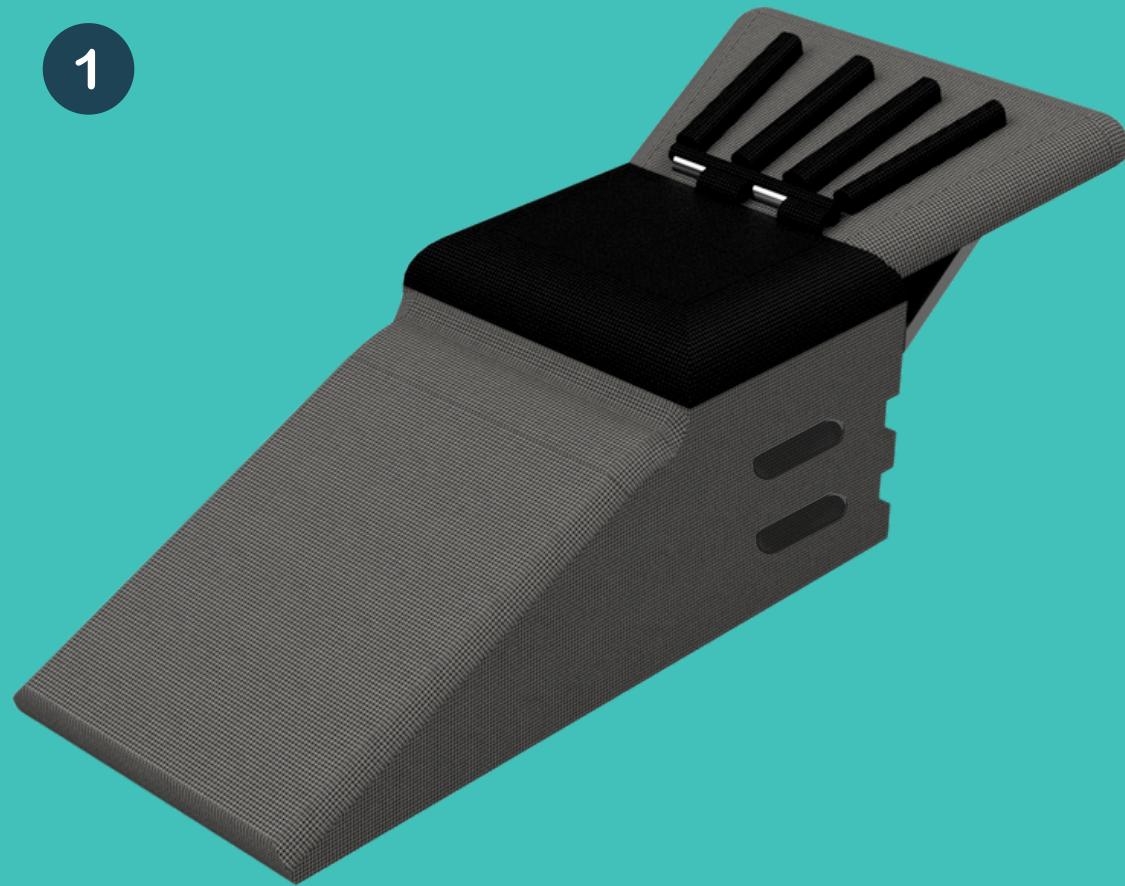


current aids are bulky, unattractive, and feel clinical - often worsening self-consciousness

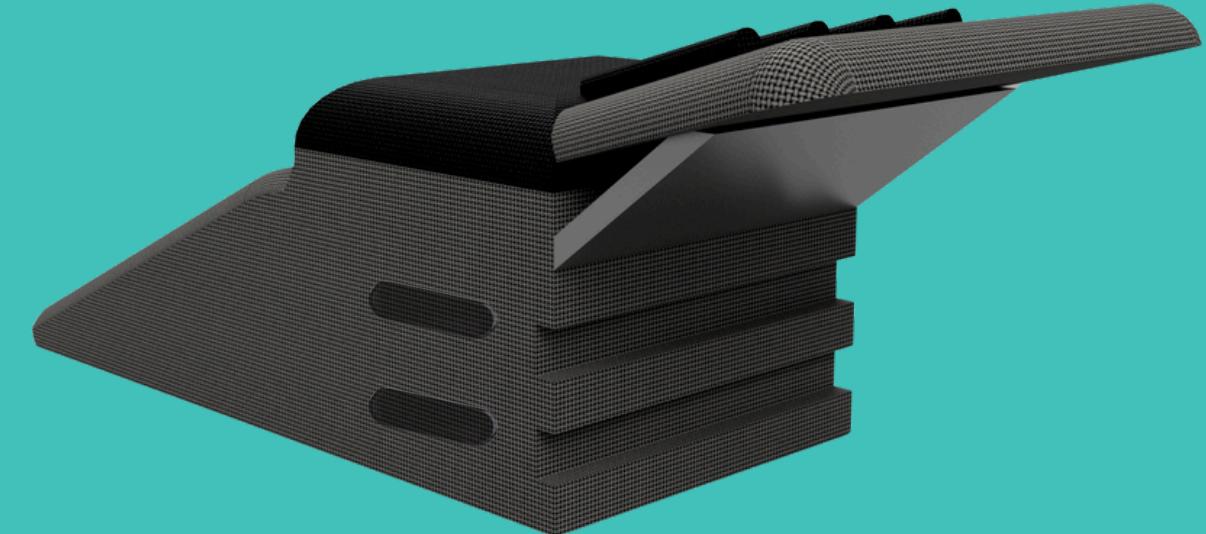
Therapalm

COMFORT YOU CAN FEEL. RELIEF YOU CAN TRUST.

1



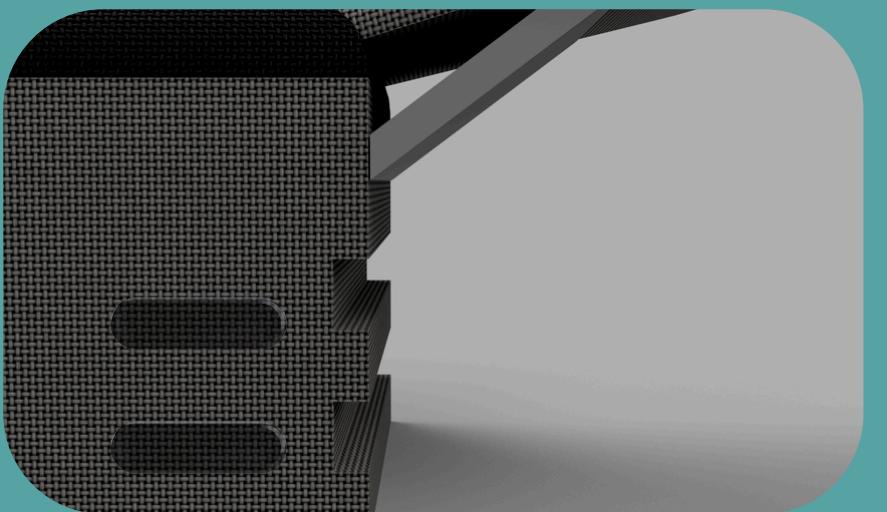
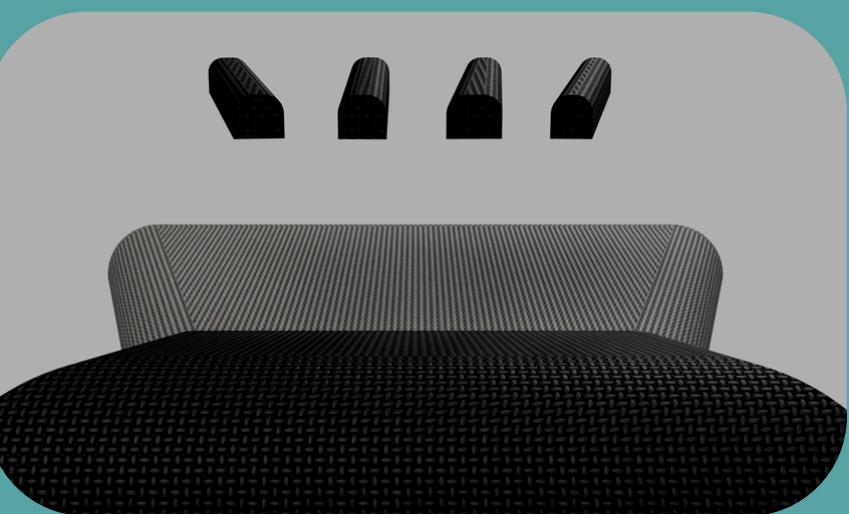
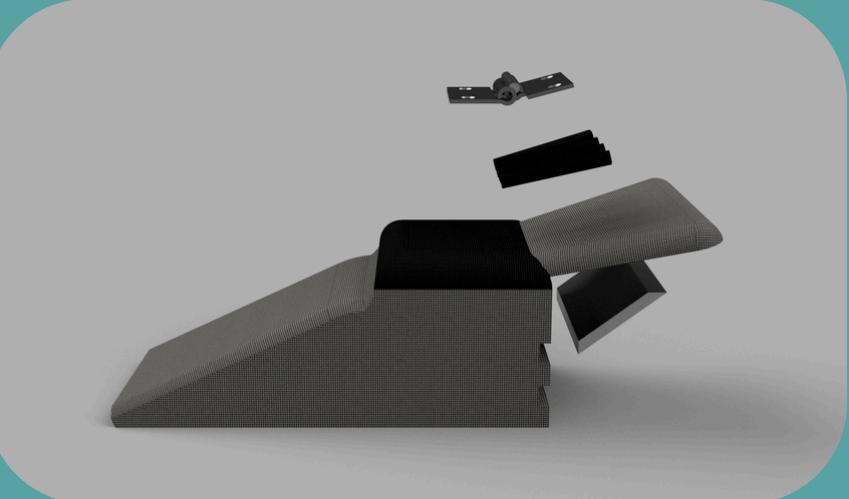
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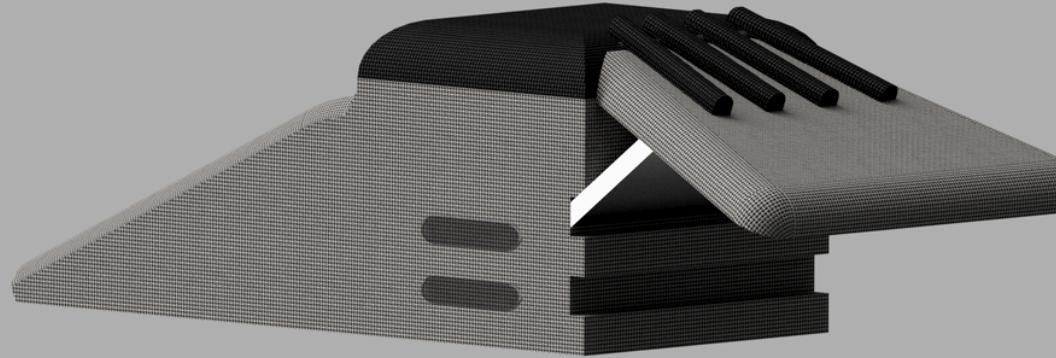


Therapalm is an elegant therapeutic device designed to relieve chronic joint pain in the hands during beauty routines or everyday activities.

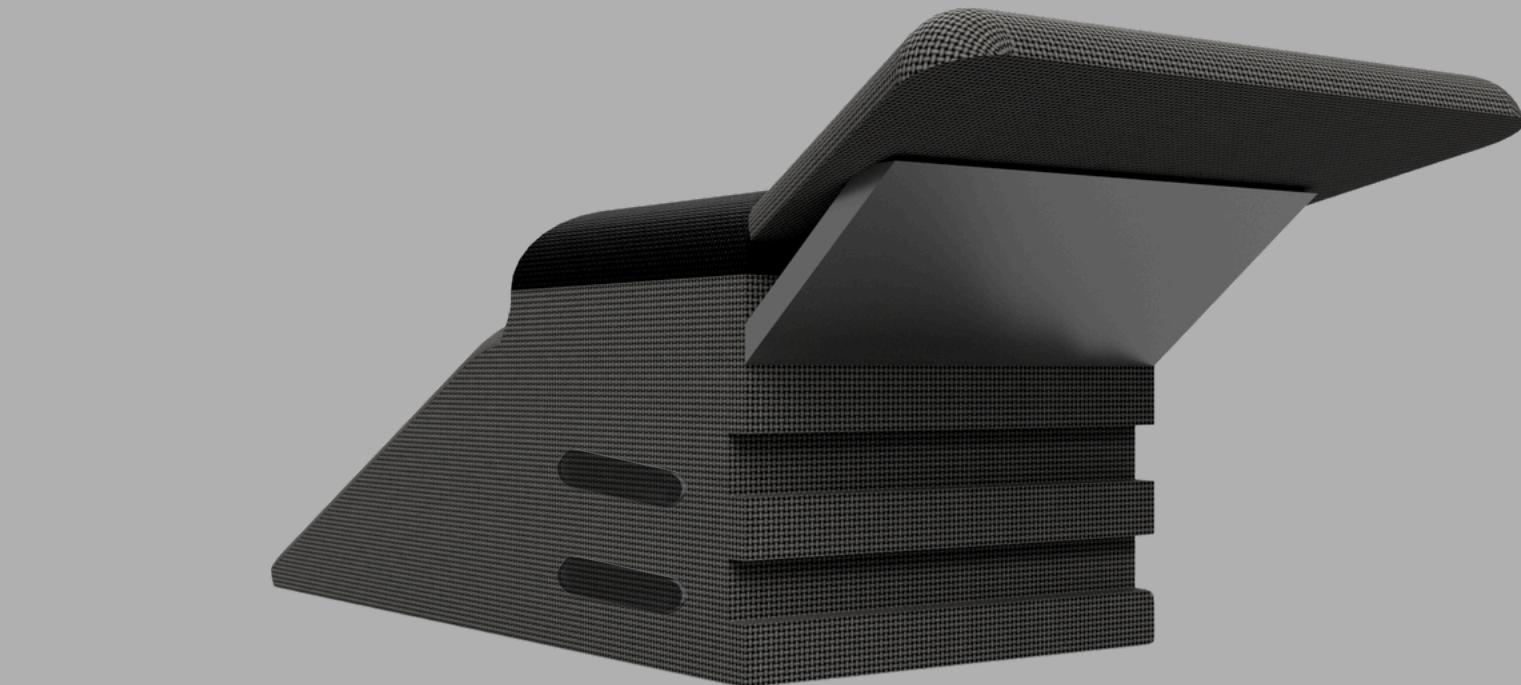
With **customizable finger supports** and integrated **heating, cooling, & massage** features, it provides comfort & targeted relief where users need it most.

Inside Therapalm: Form Meets Function

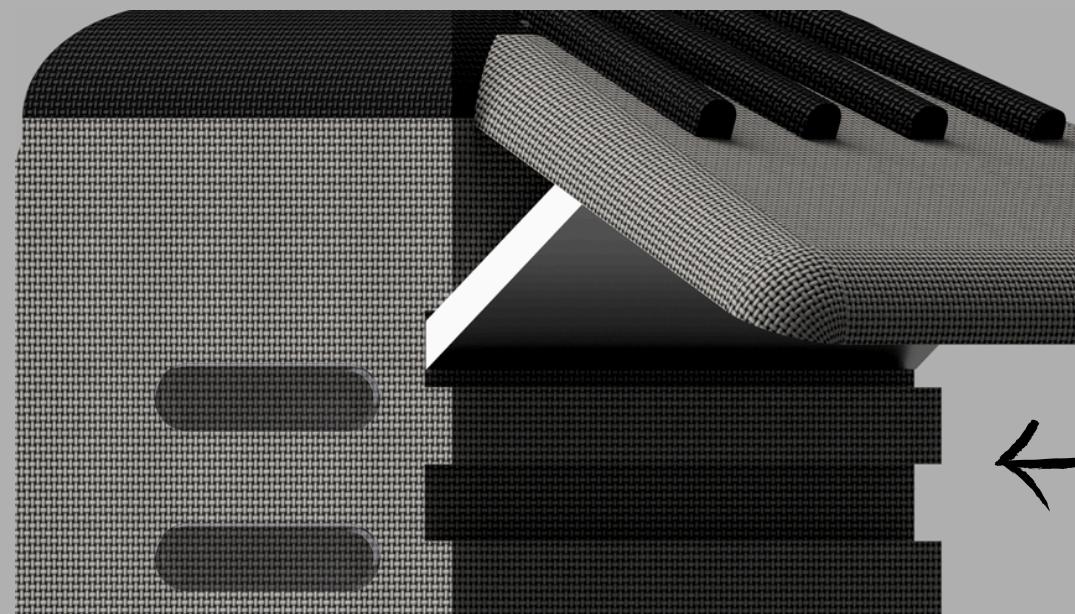




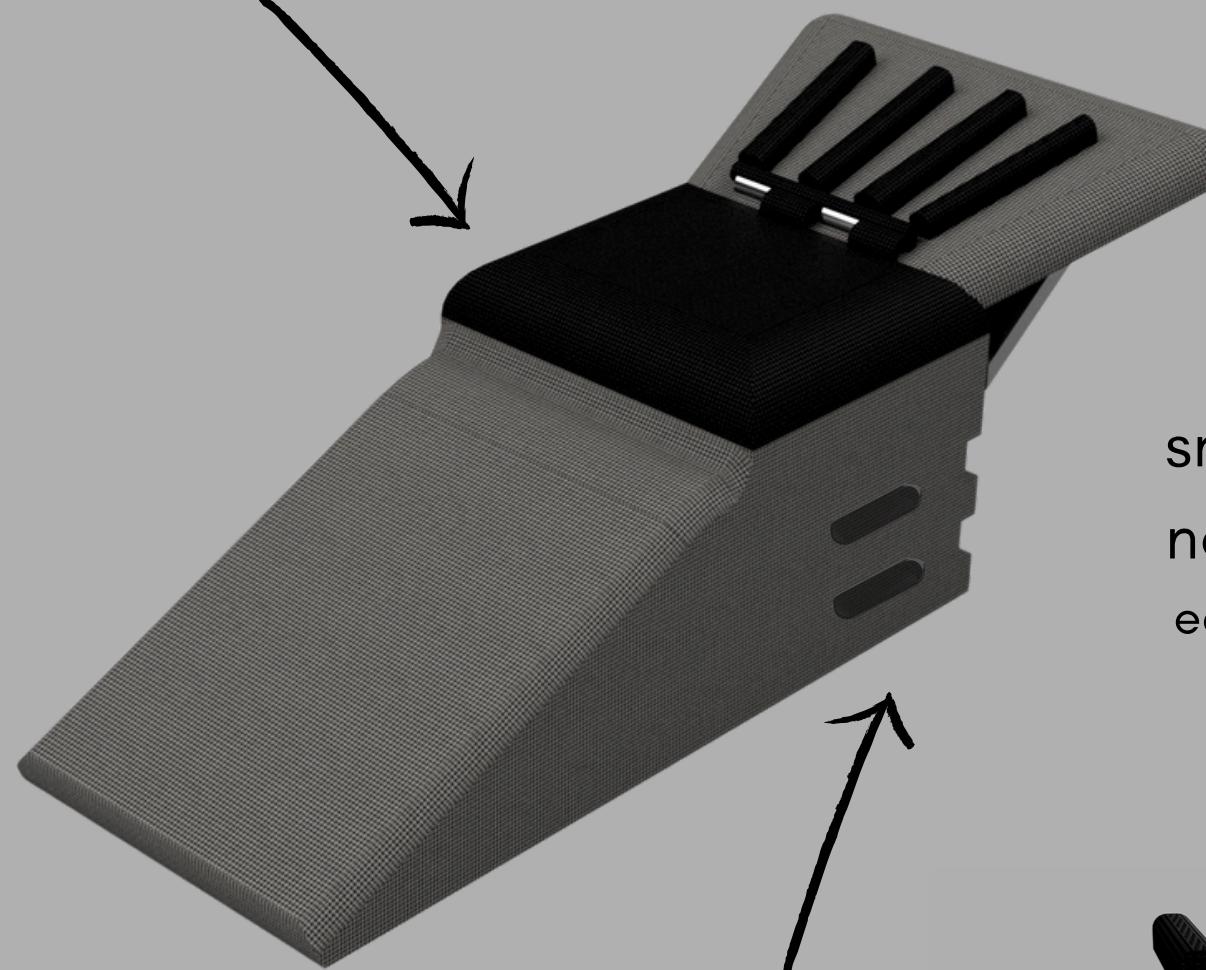
adjustable dividers made of silicone gel + thermoplastic rubber inserts
loosen & tighten as needed - thin, thermally conductive, non-metallic



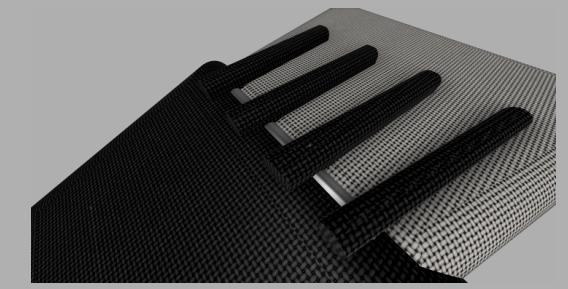
memory foam core + brushed cotton
soft, pressure-relieving, temperature-sensitive, and non-irritating



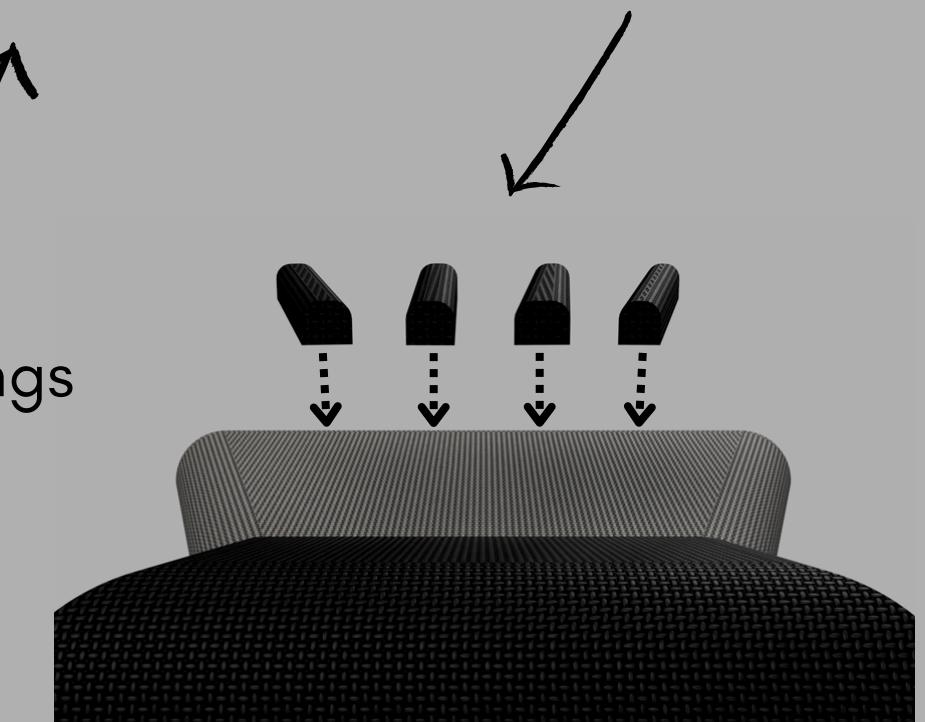
adjustable angle & height
for maximum comfort



power & settings

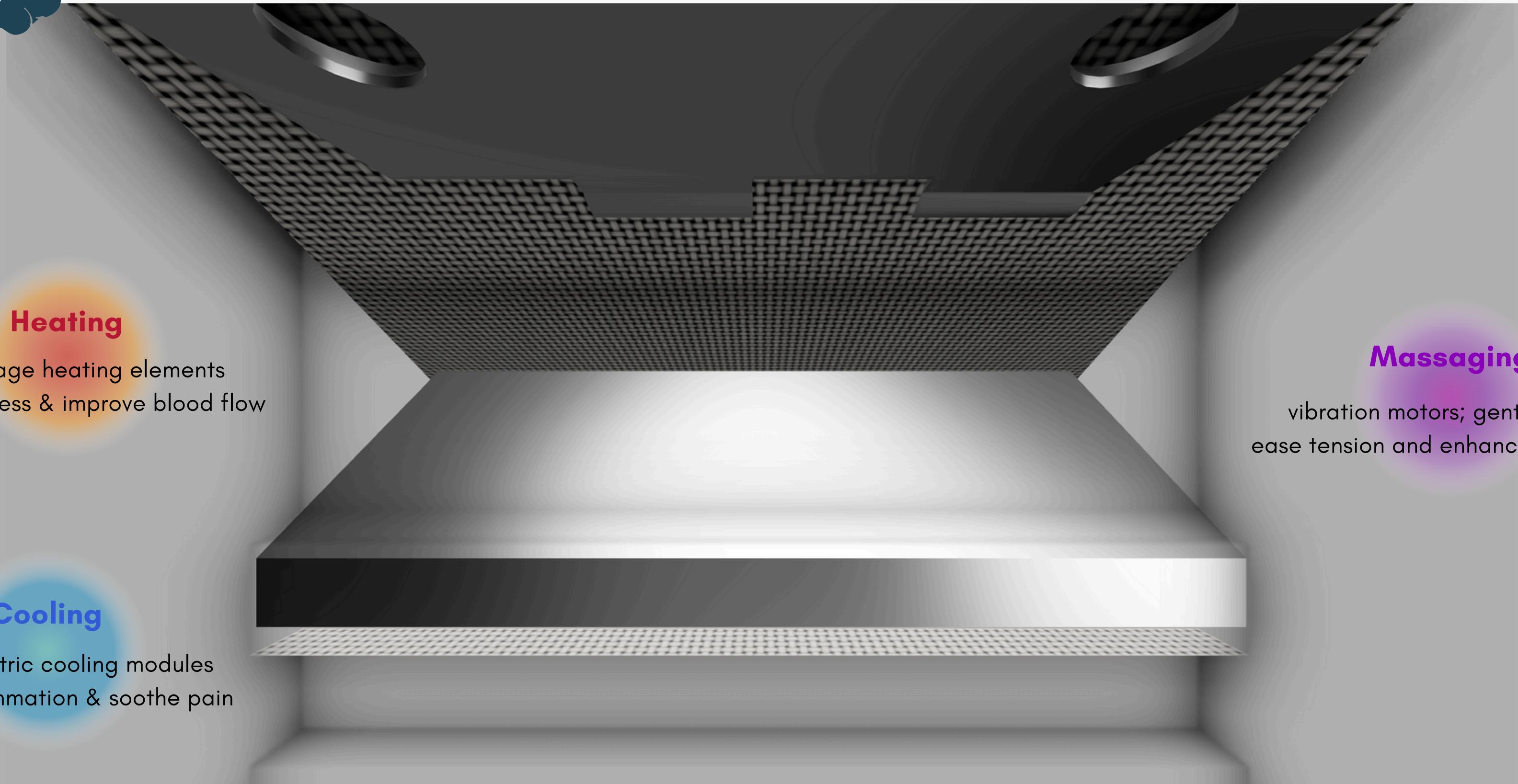


small embedded
neodymium magnets
easily attach & detach



THE MECHANICS

what's going on inside?



Cooling

thermoelectric cooling modules
reduce inflammation & soothe pain

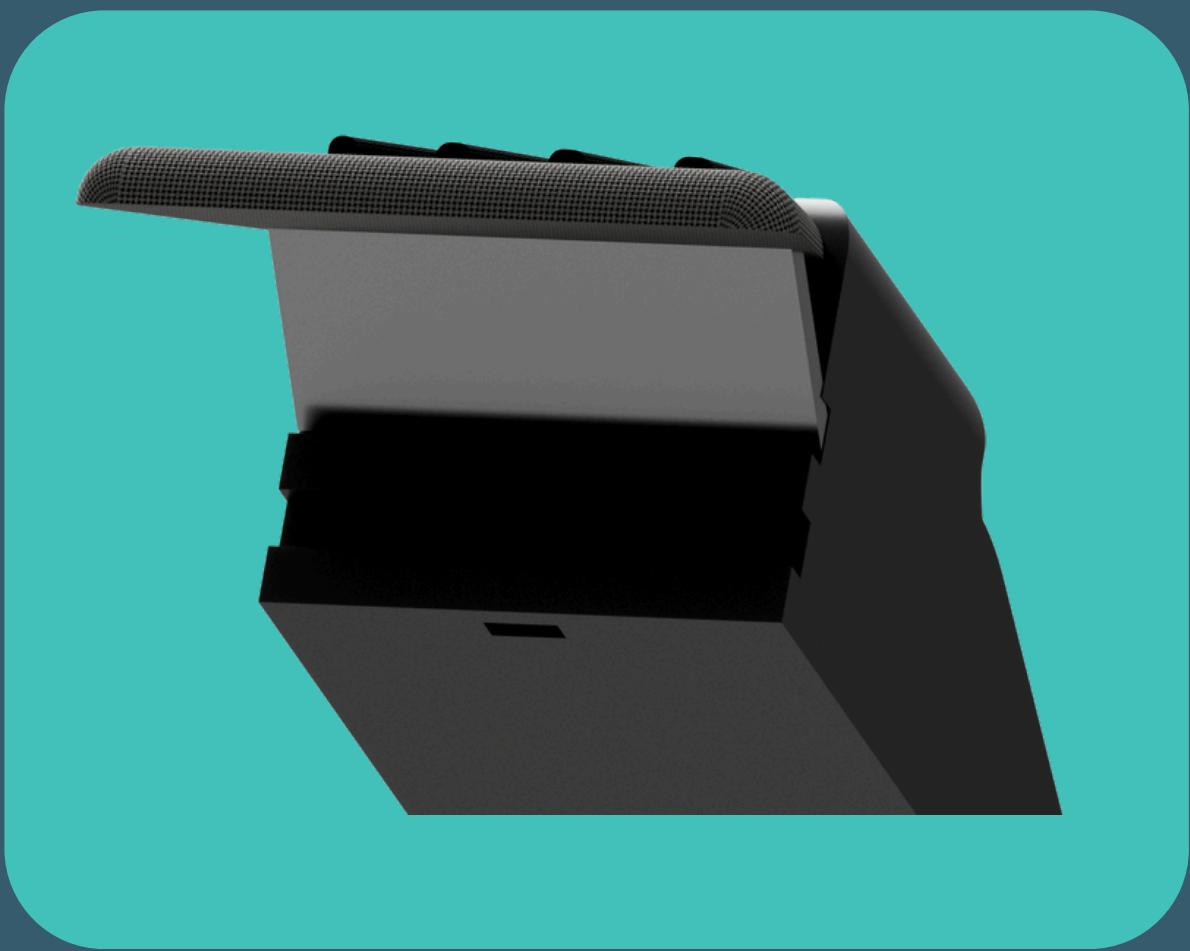
Massaging

vibration motors; gentle pulses
ease tension and enhance circulation

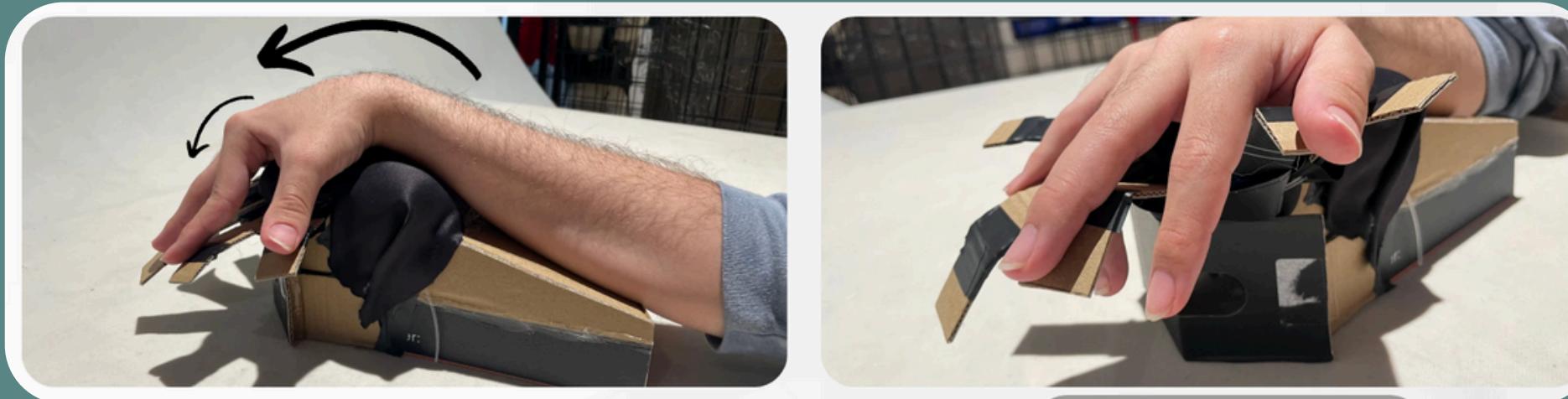
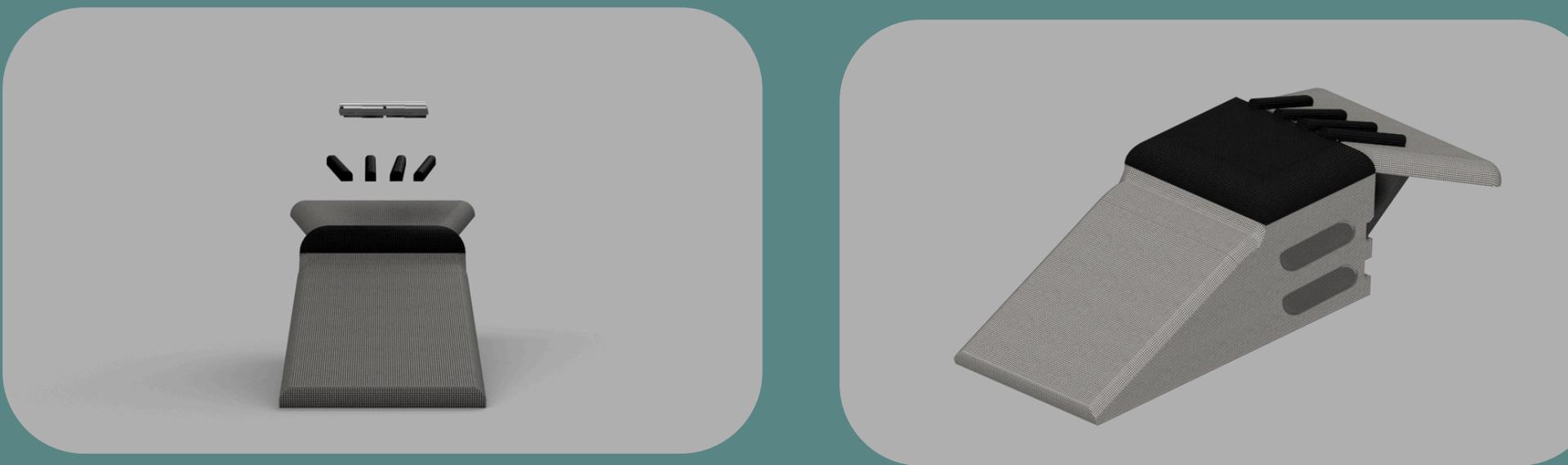
Heating

low-voltage heating elements
relieve stiffness & improve blood flow

USB CHARGING



SIMPLIFYING TO AMPLIFY IMPACT



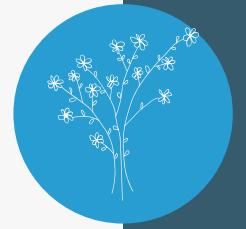
Originally, the prototype Varya Obriadova created had 5 individual finger modules.

Key changes we made:

- 1 Switched to a **single platform design** with **adjustable dividers** to reduce complexity
- 2 Focused on **modular therapy zones**: heat, cooling, and massage features
- 3 Removed raised part near at the base of the device because we noticed it was **a bit uncomfortable** to rest the wrist and hand in that way.

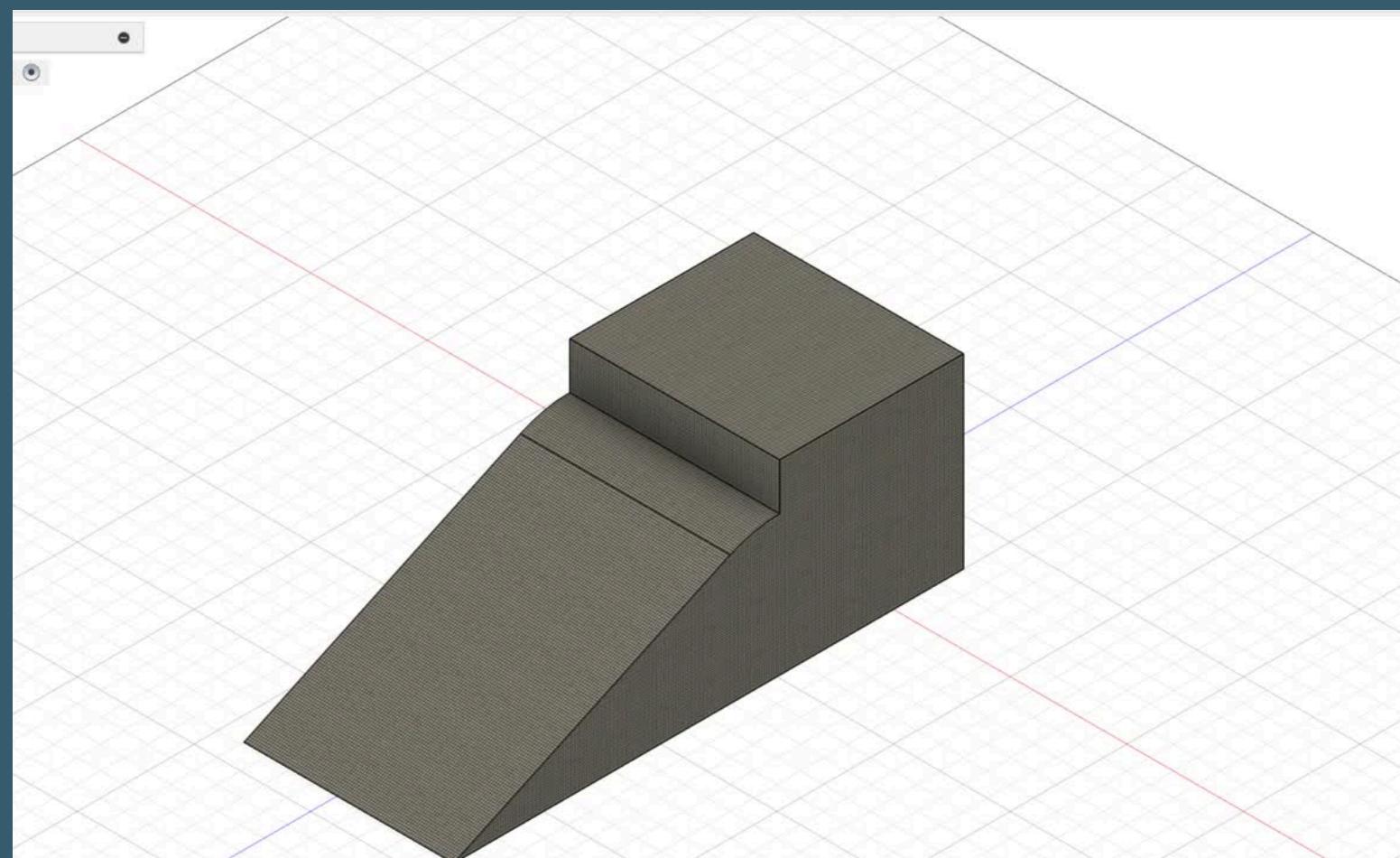
Professor Joyce reminded us: "**Simplicity is key.**" We embraced that.

CAD Modeling

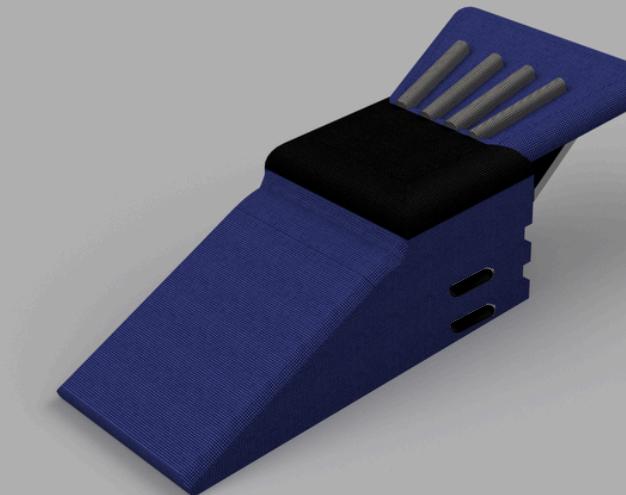
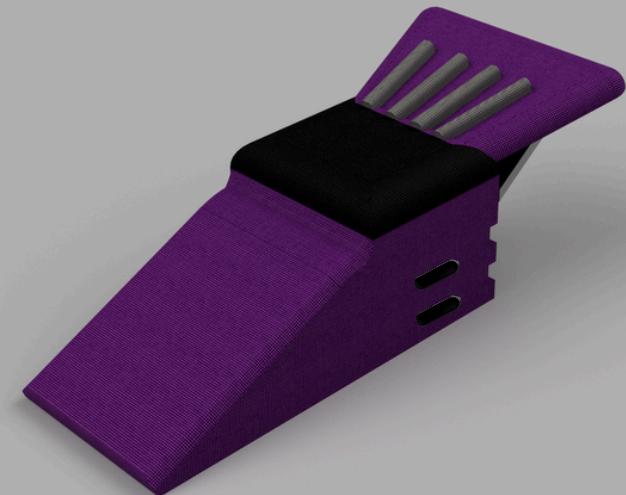
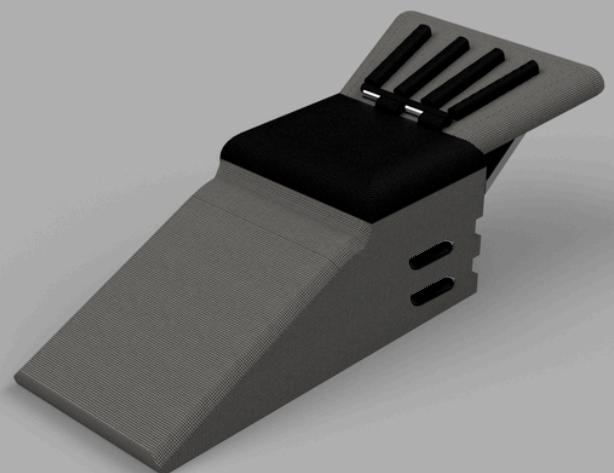


CAD modeling in Fusion360 helped us:

- Visualize component fit and modular dividers.
- Plan for integration of therapeutic features (heat coils, vibration points).
- Refine ergonomic angles for hand rest and finger positioning.



CUSTOMIZABLE DESIGN



Therapalm

in the real world

- At Home: relax, unwind, practice self-care
- At Work: relax muscles before/after typing, writing, or using tools
- In Therapy: supports rehab exercises and routines
- For Seniors: aids independence and quality of life
- At a Nail Salon: get nails painted, keep hands stable & comfy





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