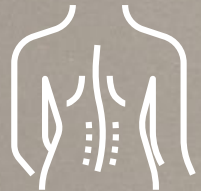


Airy

scoliosis brace

An off-the-shelf & ergonomic scoliosis brace that the teenager could wear

**comfortably
& confidently.**



Scoliosis

is a lateral curvature of the spine, that occurs most often before the puberty.



3%

of the **world's population** is affected by scoliosis.

80% of them are **teenagers**



18hrs

To slow or stop curvature progression, patients must wear **hard brace for 18 hours** per day averagely



PROBLEM

Existing scoliosis braces encounter many obstacles as below which limit the brace's adoption.



Long-term fabrication of 4 weeks **decreases important curative time** for patients with rapidly increasing curvature.



Patient compliance issue due to braces' **uncomfortability** and **outdated** appearance.



Highly tailored nature of the brace cause patients must make a new brace when they **outgrow** it and **impossible to donate** it to others.

SOLUTION

Airy, an **off-the-shelf, comfortable** brace that can be **easily set up** and adjusted to **fit all patients** and their future growth, can solve the problems mentioned above.



Off-the-shelf

The brace is available in **S, M, and L sizes** to cater patients from 8 to 19 years old.

Patients can order and assemble the brace at home using the **tailored installation guide** provided by Airy, or they can visit a clinic for **expert help**.



Comfortable & fashionable

Unlike current braces, Airy has more **open space** for the spine to move and correct while **remaining as effective** as others.

The translucency of the brace allows for color change by changing the padding or making it invisible. Patients can **design their own** brace with 5 patterns and colors available, which greatly improves compliance.



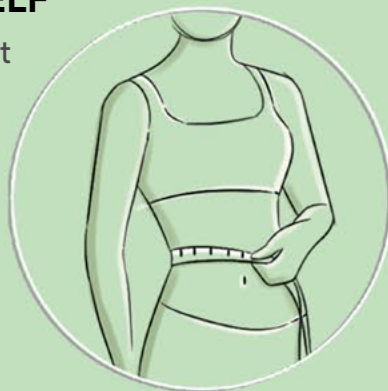
Resizable & Sustainable

When patients outgrow the brace, they can simply **reposition** each piece to fit again, or they can donate it through Airy's website and purchase a larger size.

No glue is used on the brace; everything is held together with a snap or screw and can be recycled.

OFF-THE-SHELF

As the world's first **home-installable** scoliosis brace, **Airy** saves patients a lot of time and energy, and makes the treatment more **accessible**.



1

Patient checks the size guide and **measure** their body, purchase their size online



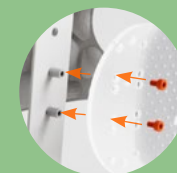
2

With the patient's body and scoliosis info, the **A.I. doctor** creates a **unique installation guide** tailored to her symptoms.



3

Install the pieces following the tailor-made installation guide



Back support
Screw the brace piece onto the back rail, user can install it vertically or at +/- 20 degree.



Front support
Screw the anti-bend front support and cord hooks onto the brace piece.



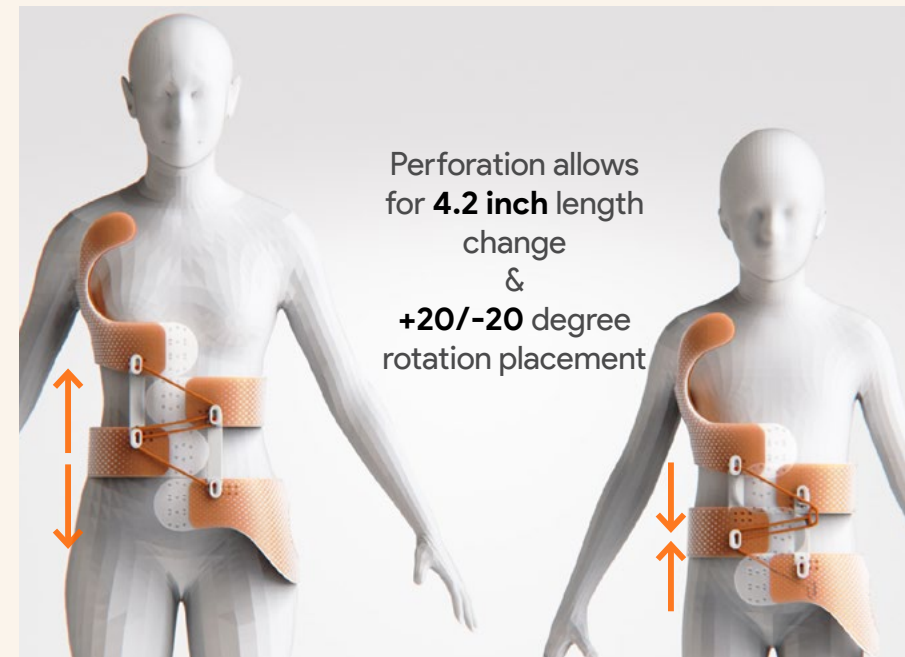
Foam padding
Snap the foam padding onto the brace.



Front cord
Button the cord onto the hooks.



RESIZABLE & SUSTAINABLE



Perforation allows for **4.2 inch** length change & **+20/-20 degree** rotation placement

After the patient outgrow the brace or finished the therapy, she can:



Trade in

The traded-in brace can be repositioned to fit other patients.



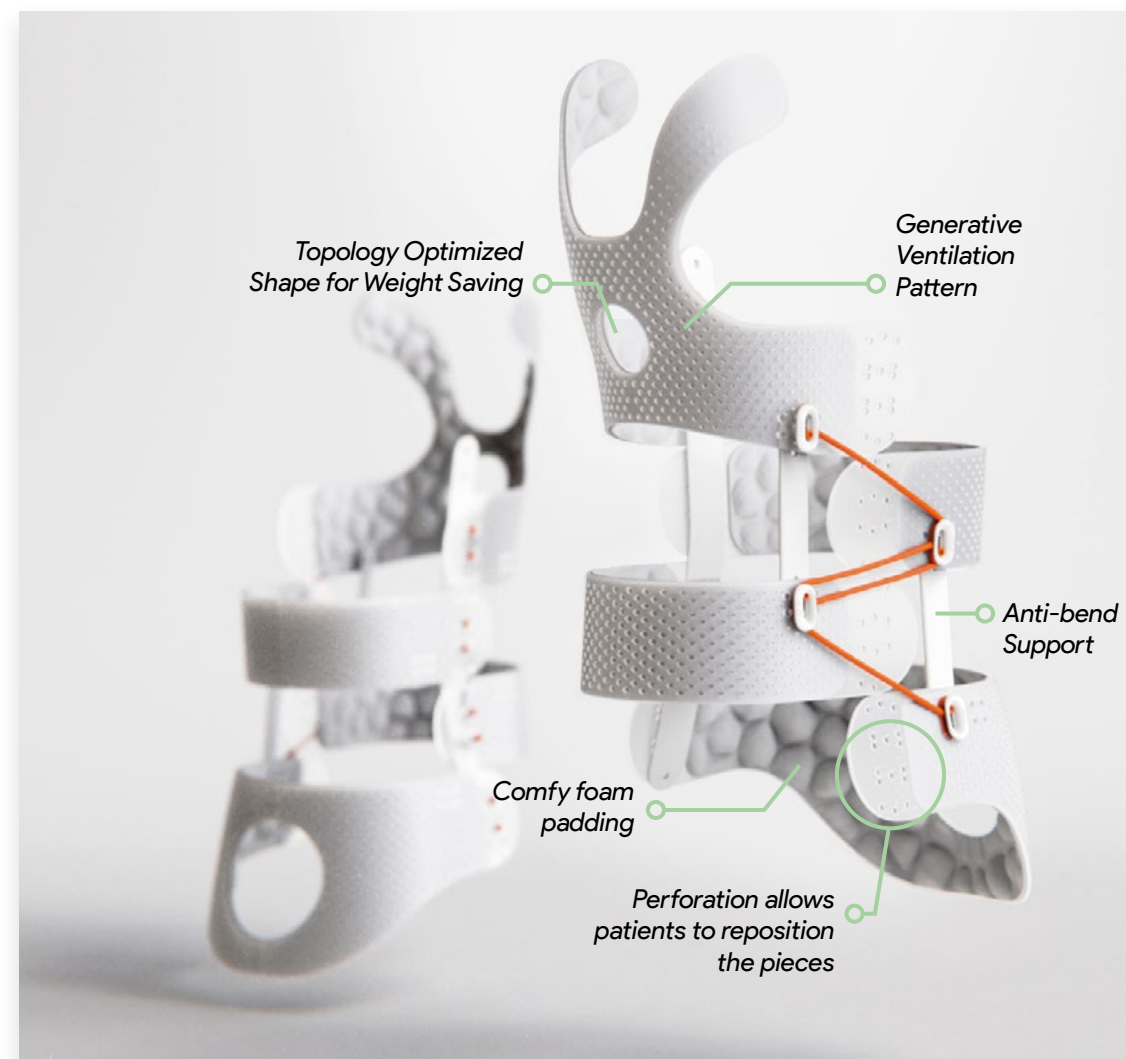
Donate

Airy partners with NGO to donate the brace to **third-world countries**.



Recycle

Because no synthetic glue is used, all rigid parts can be recycled up to **10 times**.



COMFORTABLE & FASHIONABLE



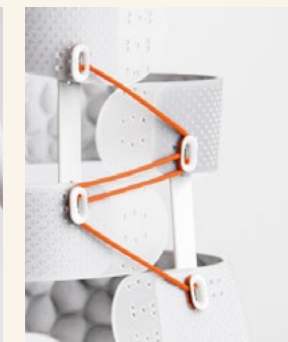
Air circulation

The foam padding is designed intentionally with a pattern to **allow heat to escape**.



Open space

Airy, like the Light Cheneau brace, allows patients to move and correct their spine while **breathing freely**.



Resilience

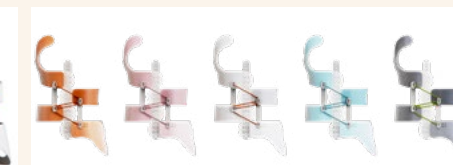
The elastic nylon cord is more resilient than velcro straps for patients to bend and rotate their torso.

5 patterns



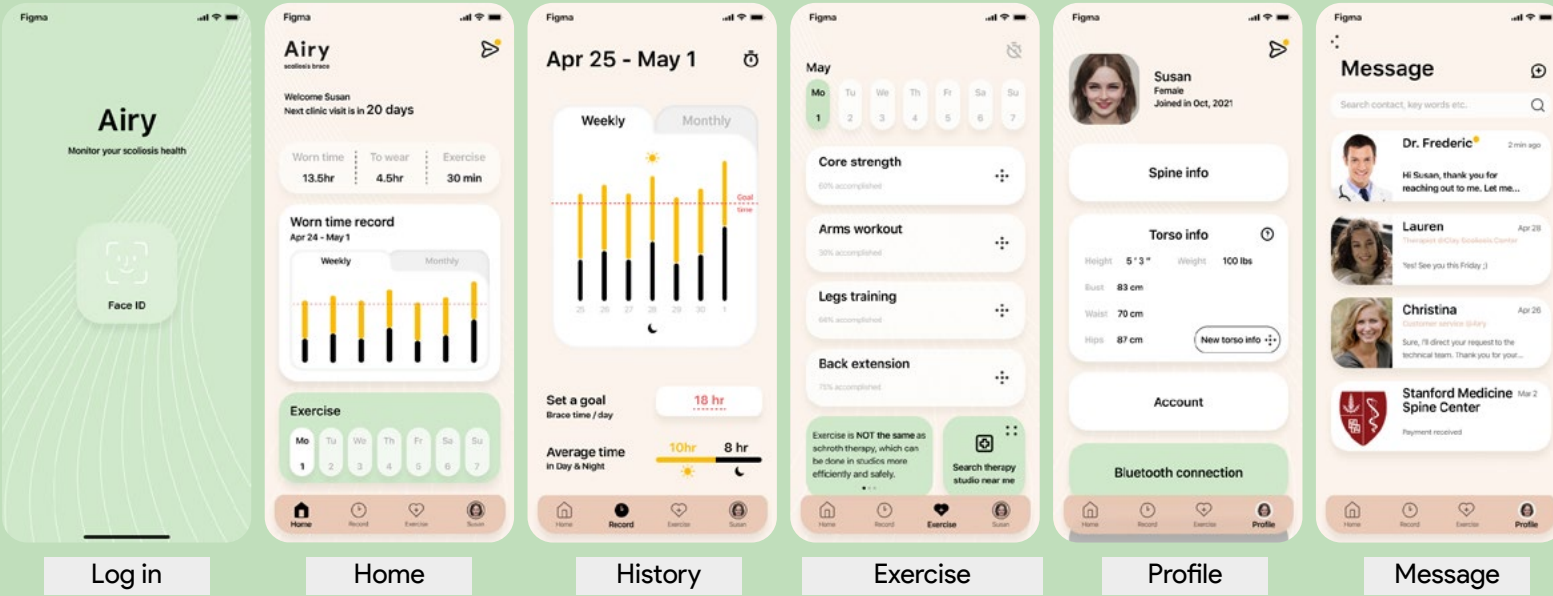
Gradient dots Stripe Hex Gingko Floral

5 colors

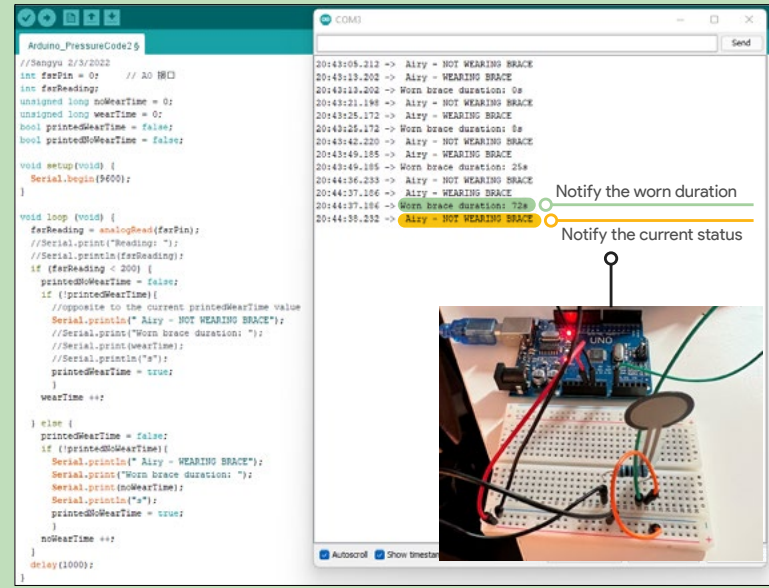


Coral Pink White Blue Black

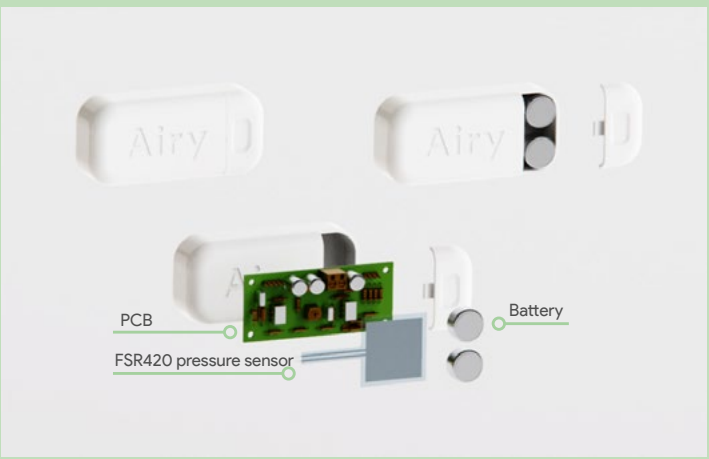
BRACE WORN-TIME MONITOR & APP



Software



Hardware



VALIDATION TEST

The validation test was held in the Orthopedics studio at Cincinnati Children’s Hospital with 4 teenager interviewers.

| | |
|--|--|
| Dia,12 1 year in brace Wear 18 hrs/day | <p><i>"I hate wearing brace...only 2 of my friends and nurse know that I wear a brace."</i></p> |
| Lya,13 .5 year in brace Wear 8 hrs/day | <p><i>"I don't like sleeping with it...nobody knows I wear a brace since it's a night-time brace."</i></p> |
| Findley,12 .5 year in brace Wear 18 hrs/day | <p><i>"Brace isn't terrible...I told everyone that I wear a brace and I don't care."</i></p> |
| Ethan,16 4 years in brace Wear 12 hrs/day | <p><i>"Brace is so uncomfortable... everyone found out I wear a brace and I don't care."</i></p> |

Reflection on current braces

| | | |
|--|--|--|
| Do you have compliance issue? 75% "YES" 25% "A little" | How many times averagely do you take on & off the brace? 5-6 times 2-3 times 1 time | What are the pain points of taking on & off the brace? Hard to reach the velcro on my back Brace jams into my body Velcro noise |
|--|--|--|

Reflection on Airy

What's good about Airy?

| |
|--|
| Would you choose Airy next time when you make a new brace? 75% "YES" 25% "Maybe" |
|--|