

HEALING COCOON



Turning fear into a sense of wonder

User manual



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1. Introduction

Healing Cocoon is an immersive multisensory system designed to reduce stress and anxiety in pediatric patients within healthcare environments. The system creates a semi-enclosed calming space combining projection, ambient lighting, and audiovisual stimuli to improve emotional comfort before or during medical procedures.

This user manual provides instructions for installation, operation, safety, and maintenance of the system. It is intended for healthcare professionals and technical staff.

2. Safety Information

Accessibility and Mechanics

Wheelchair Access: The Cocoon is wheelchair accessible. The integrated seat can be removed and replaced with a wheelchair if necessary to facilitate accessible entry.

Adjustability: The chair's casters are height-adjustable to ensure stable and secure positioning.

Ergonomics: The chair features a rear footrest to enhance comfort for children.

Sensors and Environmental Control

Real-time Monitoring: The integrated smart system continuously monitors humidity, temperature, and CO2 levels inside the Cocoon to guarantee a safe and pleasant atmosphere at all times.

Sound Insulation: A special air gap in the structure blocks external noise, creating a quiet environment for the child.

Important Usage Notes

Sensory Stimuli: The system utilizes multisensory elements such as lavender scent and music therapy. Usage should be evaluated beforehand in cases of known allergies or extreme sensory hypersensitivity.

Not a Medical Device: The Healing Cocoon is designed as a supportive tool to improve the patient experience and reduce anxiety, it is not a substitute for medical treatment.

Transparency: Claims regarding the system's capabilities should always be based on actual technical specifications.

3. System overview

The Healing Cocoon combines a high-quality physical structure with multisensory therapeutic elements and an intelligent digital control system.

Its outer structure consists of a sturdy combination of copper arches and PVC. An integrated air gap between the material layers improves sound insulation and reduces distracting ambient noise. An ergonomic seating system featuring a reclining backrest and integrated footrest ensures added comfort.

The multisensory setup creates an immersive relaxation environment by combining visual, auditory, and olfactory stimuli. A curved projection surface enables 180-degree projections of calming scenes. The integrated sound system supports music therapy and promotes well-being through spatial audio environments. Additionally, a scent diffuser releases soothing fragrances such as lavender, while an ambient LED ring provides pleasant, child-friendly lighting.

Technical control is managed via the integrated smart system. Sensors continuously monitor key environmental parameters such as temperature, humidity, light intensity, and CO2 levels.

Hospital staff can use an app to manage sessions, select relaxation programs, and monitor system status.

By intelligently integrating sensor technology, therapeutic elements, and inclusive design, the Healing Cocoon offers a modern solution for medical facilities that goes far beyond conventional distraction systems like televisions or tablets.

4. How to use

Before use, hospital staff log in to the Healing Cocoon app via the login page on the clinic tablet. The integrated smart system automatically monitors key environmental parameters such as air quality (CO₂ levels), temperature, and humidity to ensure a safe and pleasant atmosphere at all times. Users can then select one of the predefined relaxation environments, such as "Ocean" or "Forest," through the app. This selection activates the corresponding projections, music therapy, and scent system, creating a holistic sensory experience.

To use the system, the child sits in the ergonomically designed chair, which features an integrated footrest. Height-adjustable casters ensure a secure and stable base. Thanks to the accessible design, the chair can easily be removed if necessary, allowing children in wheelchairs to use the Healing Cocoon without difficulty.

Once the child is inside the Healing Cocoon, the structure comprising copper arches and PVC with an insulating air gap shields against distracting external noise and creates a protected, secluded atmosphere. Using the app on the tablet, the child can actively interact with the environment and control specific functions themselves. During the session, gentle lighting effects, spatial soundscapes, and a soothing lavender scent work together to promote relaxation and demonstrably reduce the perception of pain and stress.

After the session concludes, hospital staff end the experience via the app.

5. Modes and features

Multisensory Experience Modes

Using the Smart System, clinical staff can select various environments that transport the child to another world.

Immersive 180° Projection: A curved projection surface fully surrounds the child with visual content, such as underwater worlds ("Ocean") or calming nature scenes ("Forest").

Spatial Audio & Music Therapy: Integrated speakers and amplifiers deliver spatial sound, which is proven to alleviate pain and enhance well-being.

Aromatherapy System: An integrated scent diffuser releases natural fragrances, such as lavender, to specifically reduce anxiety regarding the upcoming treatment.

Interactive Control: A touch interface in the armrest allows the child to actively shape the environment, fostering a sense of control.

Physical and Ergonomic Features

The design has been optimized for maximum inclusivity and comfort.

Full Accessibility: The Cocoon is designed so that the standard chair can easily be supplemented with a ramp or removed entirely to accommodate full wheelchair access.

Adjustable Seating Comfort: The integrated chair features an adjustable backrest (110–120°), a footrest, and height-adjustable casters.

Sound Insulation: The outer structure comprising copper arches and PVC utilizes an air gap for sound insulation, effectively blocking out noise from the waiting area.

Ambient LED Ring: An integrated light ring provides soft, calming illumination within the cabin. Hygiene and Safety Features.

Real-time environmental monitoring: Integrated sensors continuously measure CO2, humidity, temperature, and light to ensure a safe environment.

6. Maintenance

To ensure the long-term durability, safety, and high hygiene standards of the Healing Cocoon, regular maintenance and cleaning procedures should be carried out.

The external components made of copper and PVC as well as the matte housing can be cleaned using disinfectants approved for medical facilities.

The integrated smart system should be checked regularly to ensure trouble-free operation. Software updates provided as part of the subscription model enhance and secure the functionality of the dashboard and immersive applications.

Additionally, the sensors for CO₂, temperature, humidity, and light should be calibrated and checked for accuracy at regular intervals. The scent diffuser requires periodic replacement of scent cartridges, a process that is quick and straightforward thanks to the modular system.

To ensure accessibility and ergonomic standards, all moving parts should also be inspected regularly. This includes the chair's height-adjustable casters and locking brakes, as well as the backrest adjustment mechanism. All functions should operate smoothly and safely.

Another key aspect of maintenance is the ongoing training of clinical staff. Regular briefings ensure correct operation of the smart system, adherence to hygiene standards, and safe use of accessibility features. These measures ensure that the Healing Cocoon remains a reliable and safe system for supporting stress-reduced treatment in the clinical environment.