



CHU Sainte-Justine | Case Study

**COBRA**  
SIMULATION

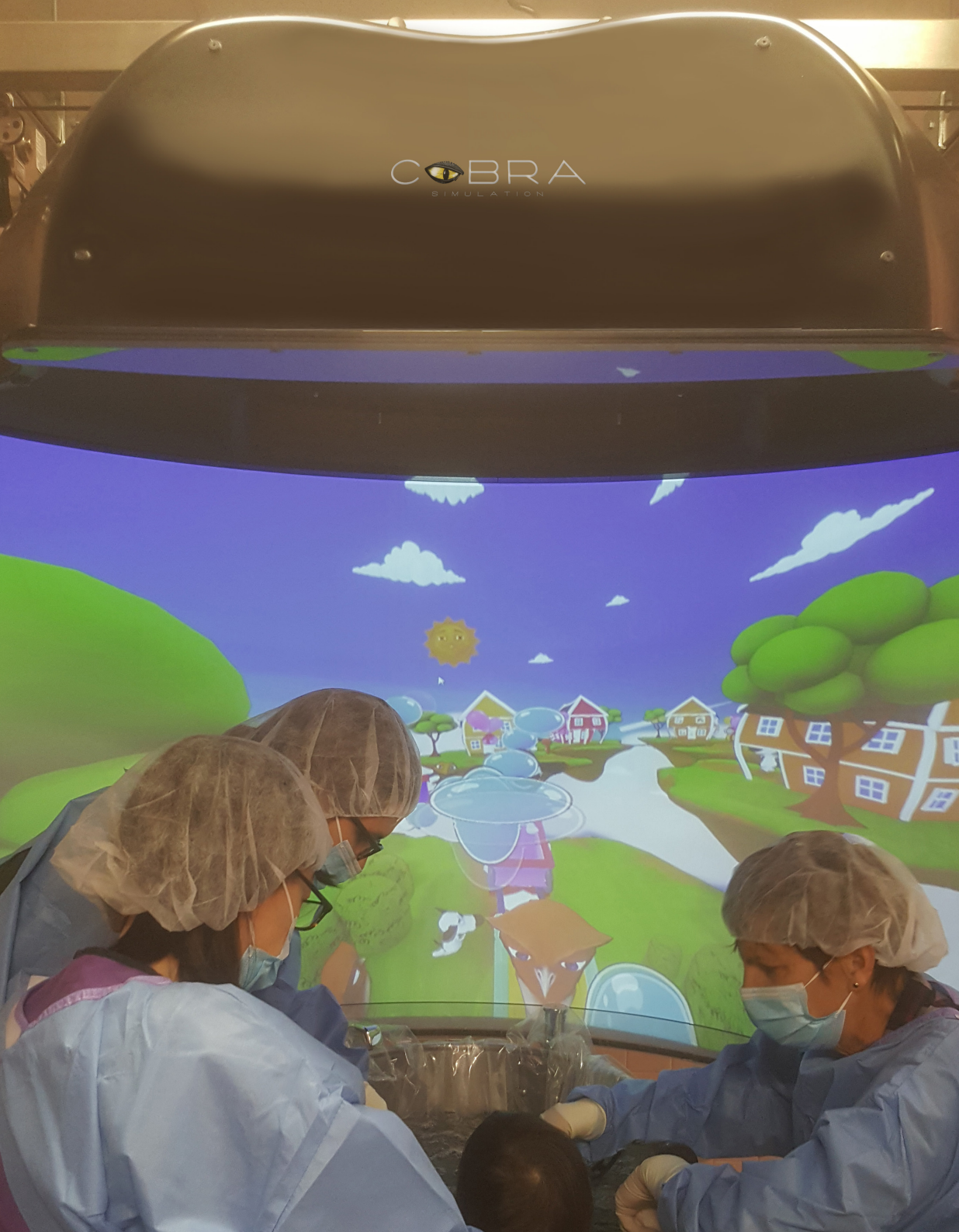
# Clinically proven: immersive visuals relieve pain & anxiety

## Client profile

The Centre Hospitalier Universitaire (CHU) Sainte-Justine is a large pediatric tertiary university health center located in Montreal (Quebec, Canada). CHU Sainte-Justine is a major referral center for pediatric burns in the province of Quebec with more than 200 outpatients and 60–80 inpatients per year.

Wound care procedures are one of the most suffering aspects of having a burn in children. Pain management during these procedures is very complex and often far from optimal. Distraction could be a promising way to relieve children's pain without adding more medication.

The research team at CHU Sainte-Justine wanted to run a pilot study (registered on clinicaltrials) which would assess the feasibility and acceptability of a projector-based VR dome environment as an intervention to distract young children with burn injuries from procedural pain and anxiety during hydrotherapy sessions.





## The Cobra challenge

The Cobra Simulation challenge was to provide the research team with a visual solution that could be suspended from the ceiling so that it didn't interfere with the clinical space. That meant one of our 'all-in-one' Cobra Curved Displays rather

than a GRP or Neg Pressure Screen with separate projector mounts. They also had to be able to use it regularly without specialist tech support. So a single channel system to avoid the need for regular re-calibration.

## The Customer Review

“We chose Cobra because they offered the best chance of meeting our requirements within budget. The unit was incredibly compact and portable with an integral hood which kept the picture nice and bright in the a clinical setting, and all the optics were built in so there was nothing to obstruct the clinical space. It was easy to install and use, their seamless single channel display meant there were no seams or blend lines to detract from the quality of immersion. It was great to be able to take the quality of the visual as a given and just to focus on the clinical trial”



## Why Cobra?

Dr. Sylvie Le May, research team leader, contacted the Society for Arts and Technology of Montreal, Canada who found that Cobra would be the ideal solution for immersive distraction that doesn't interfere with care. "Cobra were our best chance of a successful trial. Other 'off the shelf domes' couldn't be used in the same way we wanted to use our dome display, and companies who claimed they could manufacture exactly what we wanted were going to be well outside our budget. Cobra had the perfect solution - off the shelf, at an affordable price."

## Benefits

When asked about the benefits the Cobra Curved Display provides, Dr. Le May split her response into four key areas:

- The pilot study showed that the level of immersion provided by a Cobra Curved Display is a feasible intervention that could be used with pediatric burn injuries in addition to standard pharmacological treatment. Achieving an equivalent level of immersion using a VR headset was impossible due to facial burns, contamination issues and the young age of the patients.
- The study showed that health care professionals were very satisfied and interested to use Cobra Displays in combination with analgesics for procedural pain management of children with burn injuries. The Cobra display immersed the patient while still allowing the clinicians to engage.
- The Cobra Curved Display can be suspended from the ceiling without impacting on the quality of the visuals. Cobra's single channel solution meant that clinicians could operate the system without having to worry about continual calibration to maintain optical blends.

## The Cobra solution in detail

The CHU Sainte-Justine solution was a 1.8m Cobra Curved Display fitted with a Panasonic PTRZ47 HD projector and driven by a Lenovo Y50 laptop running the 'Bubbles' video game developed by Oniric interactive® under the supervision of Dr. David Paquin, professor at the Université du Québec en Abitibi-Témiscamingue, Canada.

