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Playful-Mri-Simulator: An X-Ray of a Success Story

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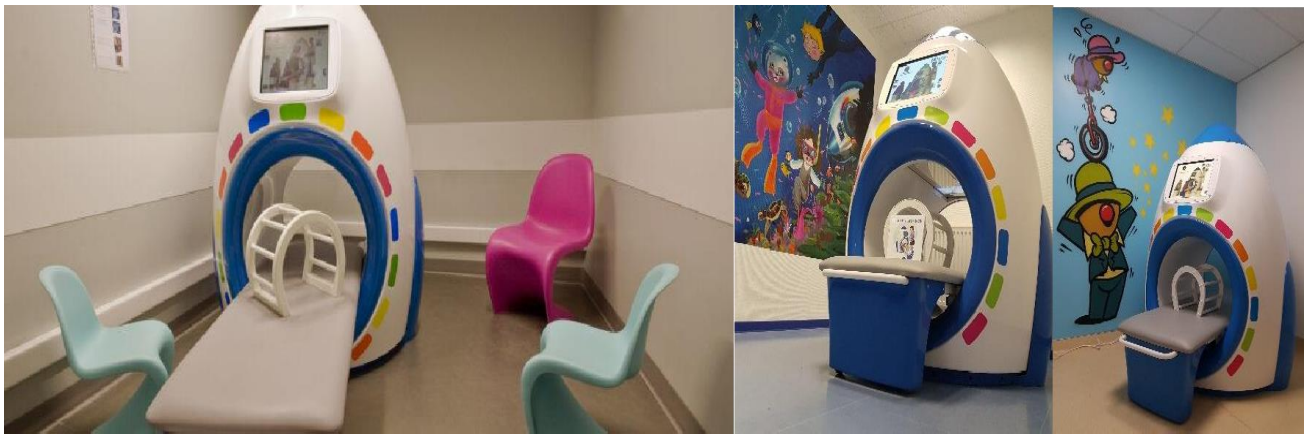
For the past ten years, Playful-MRI-Simulator has facilitated the final imaging examination of young children through simulation. Hospitals using the "educational rocket" praise the benefit of care and its impacts, including the drop in sedation, the reduction in treatment time and an increased rate of use of imaging equipment.



If pediatric radiology remains a little-known discipline, practiced by only 150 specialists throughout France, no one denies the specific know-how it requires, especially when it comes to preparing children for diagnoses. Exchange, music games... To reassure young patients and allow the realization of quality images, the range of distraction techniques is not so wide to the point of sometimes having to resort to sedation, or even general anesthesia (GA). Created in the early 2010s by the teams of Professor Pracros of the Hospices civils de Lyon, the MRI simulator is then clearly an alternative to these acts, which are challenging for children and organizations.

An Educational Rocket

The Playful-MRI-Simulator is a rocket-shaped medical imaging simulator that reproduces both the space and the noise of the exam. "The child, lying on a moving bed, is slipped inside as in the MRI tunnel to watch a cartoon. He thus learns to stand still without fear, neither the confinement nor the sounds of an MRI sequence, "explains Philippe Dodier, director of Domed which produces and markets for export the Ludo-pedagogical device.

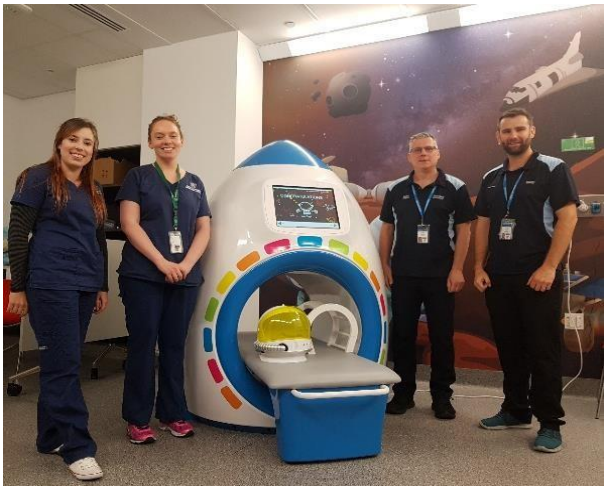
For installation, a simple room of 2.5 m x 3 m is enough and the handling, acquired in one hour of training, is within everyone's reach. Cost of the material? "About 25,000 euros excluding tax, financed by the endowment funds of institutions or sponsorship, the MRI at stake escaping scientific referencing and purchases of "official" medical devices," says Philippe Dodier. However, the manufacturer assures him: "in support of the returns of the 33 hospitals already equipped, its qualitative and budgetary impacts are tangible."

80% of Premedication's Removed

At the Necker "Enfants Malades Hospital", which has benefited from innovation since 2013, "the sedation rate has fallen by half in the first year," acknowledges Catherine Lafaye, senior health executive on adult and pediatric imaging. In support of the 11,000 annual MRIs performed here over less than six years, the overall percentage proven today by an internal study is even clearer: "80% of sedations suppressed on 500 patients between 3 and 6 years of age". Therefore, it is not surprising to record the satisfaction of more than 90% of parents, relieved to see their child approach the exam without apprehension and, above all, without danger: "the protocol is free of side effects, without the risks caused by falling asleep or GA, "says Catherine Lafaye. In addition, the exam no longer takes up half a day of their time.

Multiple Winnings

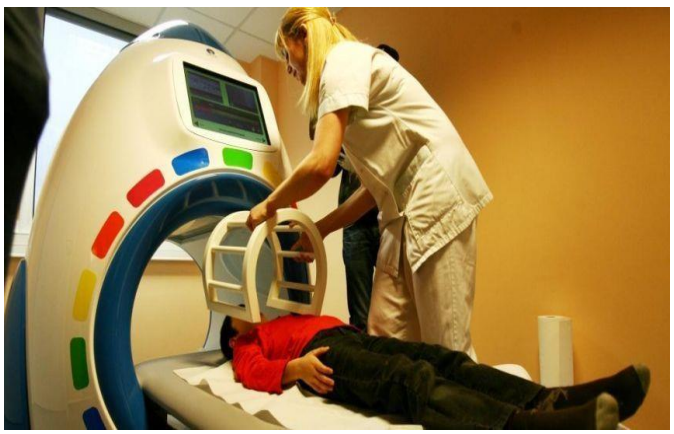
Evident in terms of comfort and quality of care, the added value is also displayed in costs. Gains on consumables, but also on the position of anesthesiologist as on those attributed to the preparation of sedation and monitoring in the recovery room. "Based on 150 children per year, 80% less GA, each estimated at 500 euros according to English-speaking studies, represent 60,000 euros in savings," reports Philippe Dodier. And the organization also benefits the beneficiaries, "with a care reduced to one hour, without sequence to start again and therefore an increased occupancy rate of the MRI," says Élodie Saldot medical imaging health executive at the Pediatric Hospitals of Nice CHU – Lenval.

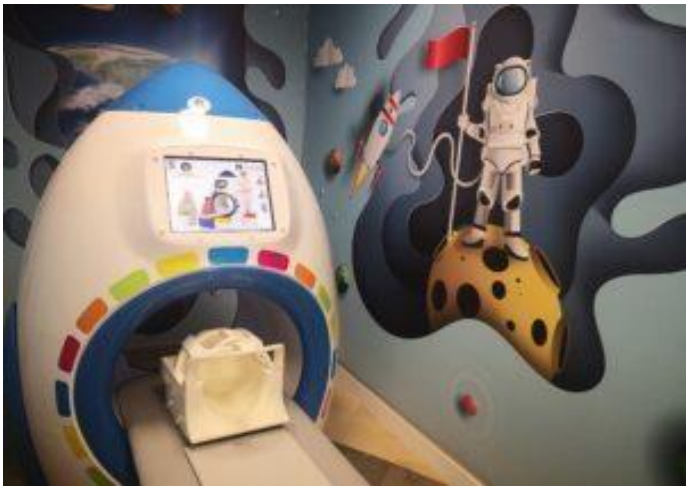


Thus, the recent installation of an MRI at stake at the CHU of Poitiers supports "the hope of shortening programming times, up to a year today for the least urgent cases," says Martine Mergy-Laurent, who is a pediatric radiologist in the imaging department. The purchase has also given rise to a fundamental reorganization since, from the childcare assistant to the internal, the entire pediatric day hospital is now relocated to the pediatric MRI during the weekly vacation.

Ideal For 3-10 Year Olds

Although tested by 13–14-year-olds who recognize themselves as "more reassured", "the device is mainly intended for 2–8-year-olds, still not very accessible to reasoning", says Stéphanie Hernu, Head of Culture and Patronage at Montpellier University Hospital who has just acquired it. "The ideal is to install it near the MRI department and to be able to perform the real examination in the process," adds Élodie Saldot-Quessada.





Rather than relying on donor associations, such as the Blouses Roses in Montpellier, or the manipulators themselves, as in Poitiers, the nice system has even been based, since January 2021, on a dedicated childcare assistant. "The HR investment has made it possible to go from 250 simulations in 2020 to 472 in 2021, with 7% of failure against 16%," says the health executive. In Necker, Catherine Lafaye confirms: "We could no longer do without it!" While other distraction systems are deployed, such as virtual glasses, the MRI in play continues to assert its assets, including – last but not least – "that of making the child fully involved in his care and not diverted from it," says Dr. Mergy-Laurent. Or how a rocket can help keep your feet on the ground.