

SEDAZIONE DIGITALE

V Convegno Nazionale
GAVePed
2023 RIMINI
15-16 Maggio



DOTT.SSA ZANABONI CLELIA
ANESTESIA E RIANIMAZIONE PEDIATRICA
AOU
PARMA

Sedazione farmacologica: cosa dicono le LG?

- **Nuove linee guida internazionali* per limitare il rischio nelle attuali procedure di Sedazione e Analgesia**

Guidelines
Practice Guidelines for Moderate Procedural Sedation and Analgesia 2018: A Report by the American Society of Anesthesiologists Task Force on Moderate Procedural Sedation and Analgesia, the American Association of Oral and Maxillofacial Surgeons, American College of Radiology, American Society of Interventional Radiology¹
EJA
Anesthesiology 2018; 130: 437-479



Obiettivo : Riduzione dei rischi legati alla sedazione farmacologica (benzodiazepine e oppioidi,...)

Riduzione dei rischi legati alla farmacologia:

Depressione respiratoria

Instabilità emodinamica

Attenzione alle comorbidità

Cardiovascolare

Metabolico

Polmonare

Incidence of severe critical events in paediatric anaesthesia (APRICOT): a prospective multicentre observational study in 261 hospitals in Europe

Walid Habre¹, Nicola Disma², Katalin Virag³, Karin Becke⁴, Tom G Hansen⁵, Martin Jöhr⁶, Brigitte Leva⁷, Neil S Morton⁸, Petronella M Vermeulen⁹, Marzena Zielinska¹⁰, Krisztina Boda¹¹, Francis Veyckemans¹²,
APRICOT Group of the European Society of Anaesthesiology Clinical Trial Network



*American Society of Anesthesiologists, 2018 and European Society of Anesthesiology, 2018

Tecniche non farmacologiche

PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Evaluation of Nonpharmacologic Methods of Pain and Anxiety Management for Laceration Repair in the Pediatric Emergency Department

Madhumita Sinha, Norman C. Christopher, Robin Fenn and Laurie Reeves

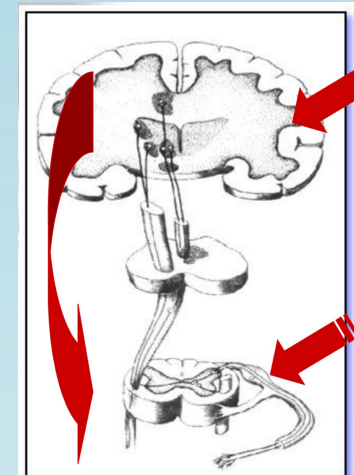
Pediatrics 2006;117:1162-1168

DOI: 10.1542/peds.2005-1100

Tecniche che interferiscono con la percezione del dolore, inibendo i fattori aumentano o rendono più angosciante e drammatica la sensazione dolorosa.

Creano un temporaneo stato di dissociazione mente-corpo

Nel trattamento del dolore del bambino, dove la componente psicologica è dominante è fondamentale agire non sullo stimolo fisiologico/nocicettivo ma anche a livello EMOTIVO, COMPORTAMENTALE e COGNITIVO



Valet M et al. Distraction modulates connectivity of the cingulo-frontal cortex and the midbrain during pain – an fMRI analysis. *Pain* 2004; 109:399-408

Sedazione Digitale

La sedazione digitale è una soluzione terapeutica non farmacologica per ridurre il dolore e l'ansia prima durante e dopo una procedura medica.

La SD utilizza una tecnologia tridimensionale, immersiva e VR per guidare il paziente attraverso gli stessi passaggi utilizzati quando l'ipnosi clinica è indotta attraverso un processo interpersonale

La **terapia digitale** combina l'ipnoterapia clinica e le tecniche terapeutiche integrative attraverso la realtà virtuale

Réalité virtuelle et soins palliatifs, un complément dans la prise en charge

Alexandra Lafay^a
Aide-soignante

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Cadre de santé

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DSI secteur médecine

Incontournables dans l'univers du jeu vidéo ou du cinéma, les masques de réalité virtuelle ont fait leur entrée à l'hôpital ces dernières années. Une équipe de soins lyonnaise propose un retour d'expérience sur l'intérêt de ces dispositifs en complément de la prise en soins des patients dans un service de soins à orientation palliative.

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Mots clés - angoisse; fin de vie; hypnose; réalité virtuelle; sophrologie

Virtual reality and palliative care, a complement in the care provision. Commonplace in the world of gaming or the cinema, virtual reality headsets have made their appearance in the hospital over recent years. A nursing team in Lyon shares its feedback regarding the benefit of these tools as a complement to the care provided to patients in a palliative care unit.

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Keywords - anxiety; end of life; hypnosis; sophrology; virtual reality

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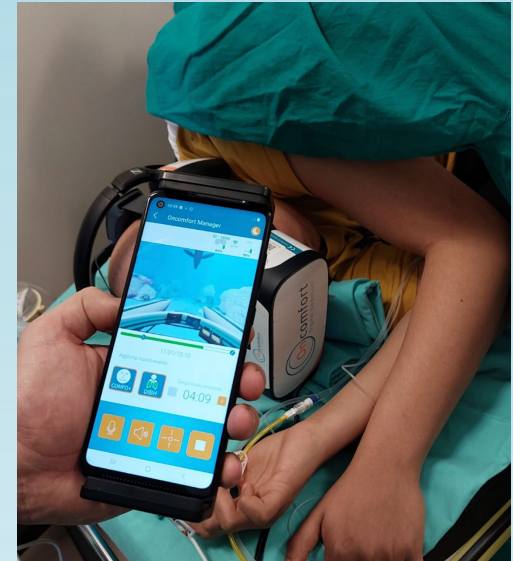
Realtà virtuale

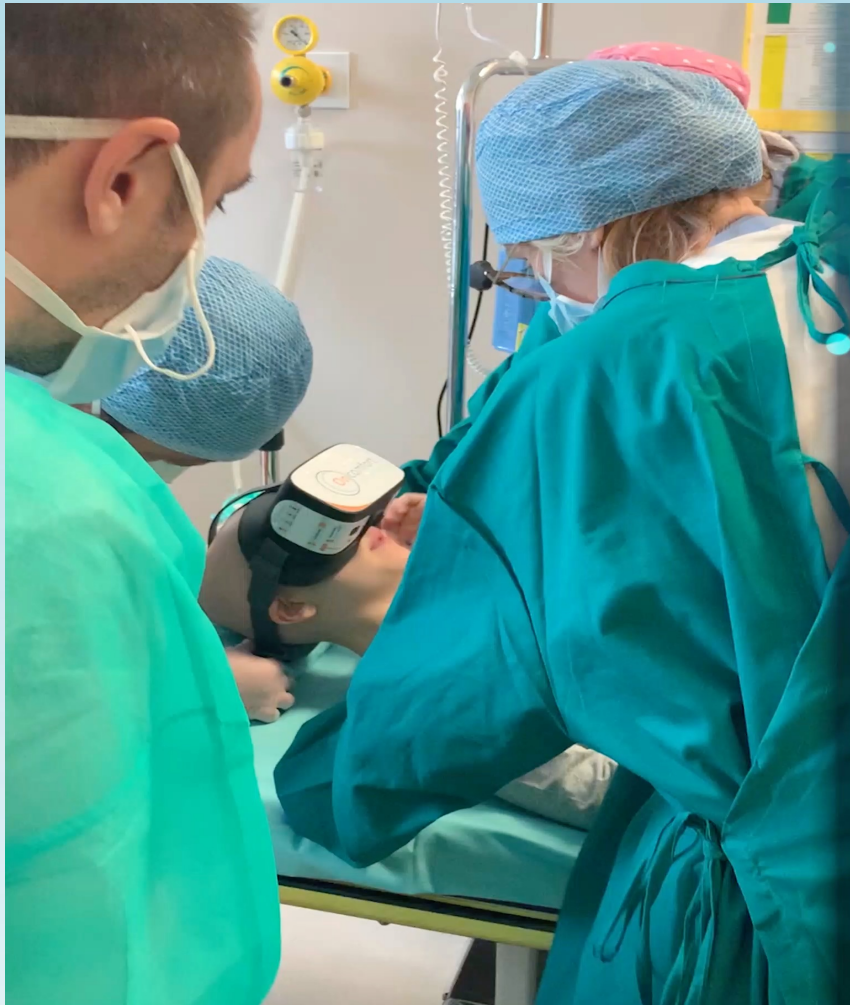
La realtà virtuale può catturare l'attenzione dei pazienti sottoposti a procedure IR. L'illusione di entrare nell'ambiente tridimensionale generato dal computer è nota come "presenza"

Questo concetto di presenza è considerato il fattore chiave per rendere la realtà virtuale immersiva più efficace nel controllare il dolore rispetto ai metodi tradizionali di distrazione come i videogiochi o la televisione

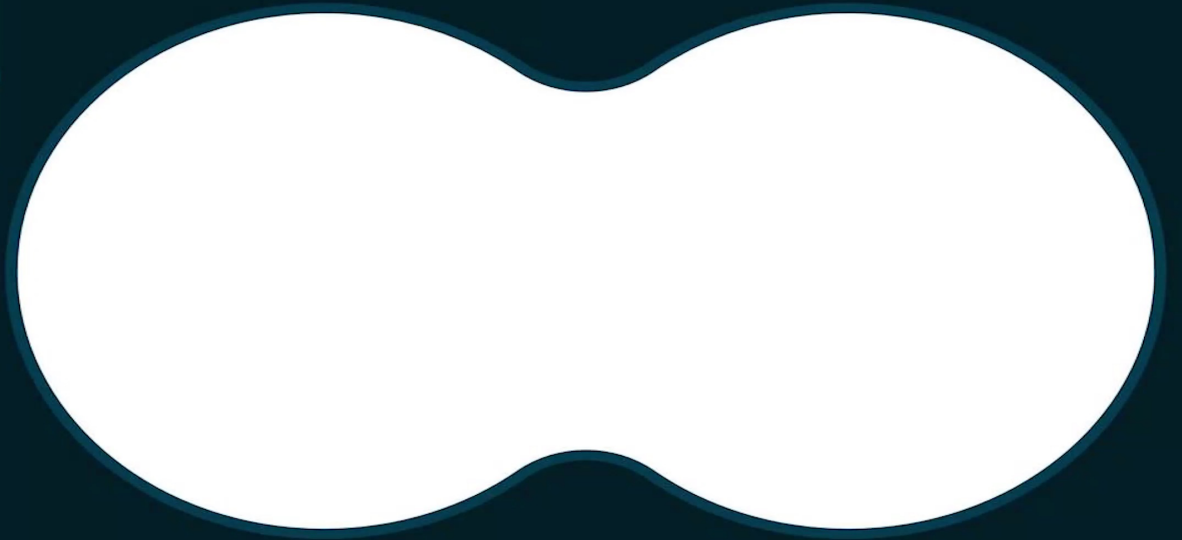
La sensazione di entrare nel mondo virtuale rafforza la presenza del paziente nell'ambiente e distoglie l'attenzione dal dolore

Può essere utilizzata come mezzo non farmacologico per mitigare il dolore procedurale acuto



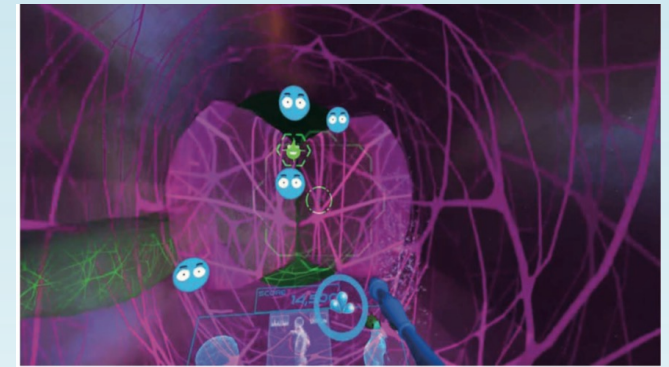


VIEW

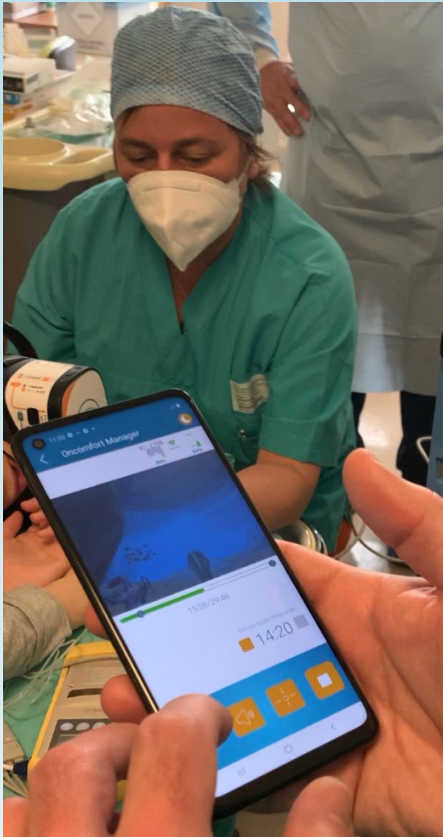


From Inside

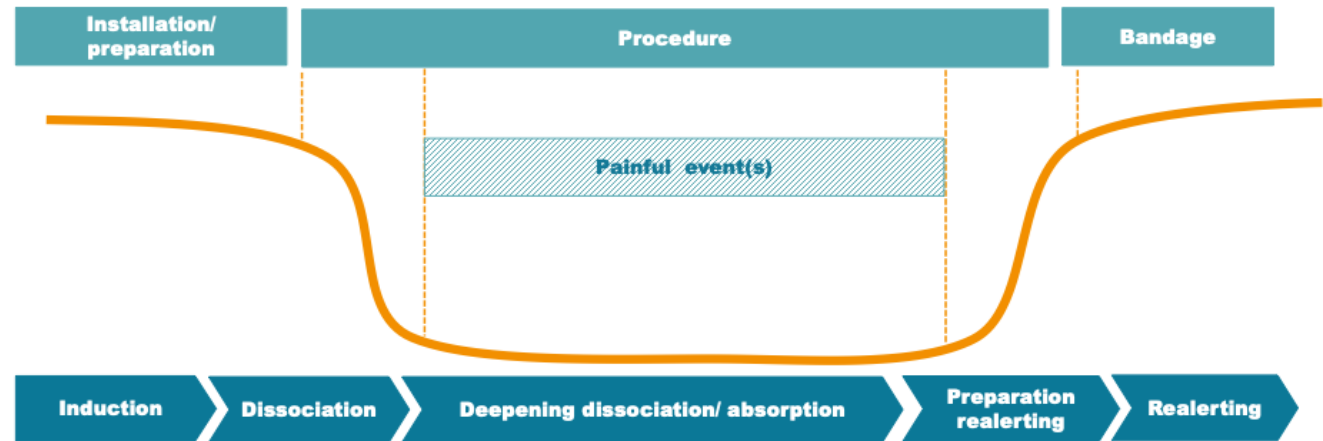
MODULI



Fasi della sedazione digitale



U-shape hypnosis



PEDIATRIC ANESTHESIA: EDITED BY JORGE A. GÁLVEZ

Virtual reality for pediatric periprocedural care

Wang, Ellen^a; Thomas, James J.^b; Rodriguez, Samuel T.^a; Kennedy, Kristin M.^c; Caruso, Thomas J.^a

[Author Information](#) 

***Current Opinion in Anaesthesiology* 34(3):p 284-291, June 2021. | DOI:**

In the preprocedure setting, practitioners use virtual reality to introduce children to periprocedural environments, distract attention from preprocedural vascular access, and increase cooperation with anesthesia induction. Intraprocedure, virtual reality decreases sedation requirements, and in some instances, eliminates anesthesia for minor procedures. Virtual reality also augments pain reduction therapies in the acute and extended rehabilitation periods, resulting in faster recovery and improved outcomes. Virtual reality seems to be well treated for pediatric use, given close clinical care and carefully curated content.

The Emerging Role of Virtual Reality as an Adjunct to Procedural Sedation and Anesthesia: A Narrative Review

by  Rita Hitching ¹,  Hunter G. Hoffman ^{2,3,*} ,
 Azucena Garcia-Palacios ⁴,  Maheen M. Adamson ^{5,6} ,
 Esmeralda Madrigal ⁷,  Wadee Alhalabi ^{3,8,9} ,  Ahad Alhudali ⁸,
 Mariana Sampaio ^{10,11},  Barry Peterson ¹²,  Miles R. Fontenot ¹³ and
 Keira P. Mason ^{14,*}  

There is growing evidence that the patient's psychological state of mind can influence the dosage of sedatives needed. VR reduces procedural anxiety by redirecting the patient's attention into the computer-generated world, as the VR "transports" the patient from the clinical setting to another 'reality'. **The application of VR has been shown to decrease diastolic blood pressure, heart and respiratory rate, temperature, muscular tension, temperature, skin conductance, and serum carbon dioxide levels**



The efficacy of an augmented virtual reality system to alleviate pain in children undergoing burns dressing changes: A randomised controlled trial

Jonathan Mott^a, Sam Bucolo^b, Leila Cuttle^a, Julie Mill^a, Melanie Hilder^a, Kate Miller^a, Roy M. Kimble^{a,*}

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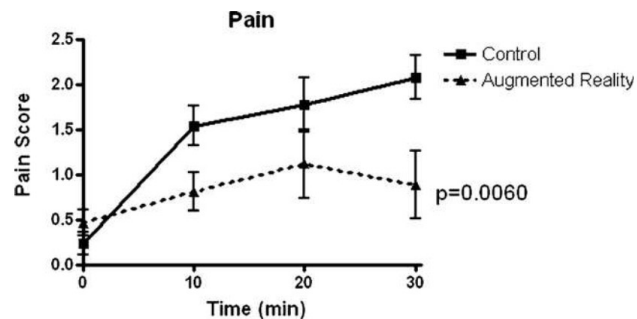


Fig. 3 – Pain scores at 10, 20, and 30 min in AR and Control groups for patients with long dressing times (>30 min). Data points are average $\pm$ standard error of the mean.

It must be noted that **AR devices are not a substitute for pharmacological analgesia but are a powerful adjunct to it.** Reducing patient pain, anxiety and therefore distress is especially significant for children who have to undergo multiple painful procedures because it could reduce avoidance behaviour and make the child more cooperative during subsequent treatments.

Small surgeries, big smiles: using virtual reality to reduce the need for sedation or general anesthesia during minor surgical procedures

[Jordan S. Taylor](#), [Julia M. Chandler](#), [Maria Menendez](#), [Modupeola Diyaolu](#),
[John R. Austin](#), [Michelle L. Gibson](#), [Katherine I. Portelli](#), [Thomas J. Caruso](#),
[Samuel Rodriguez](#) & [Stephanie D. Chao](#) 

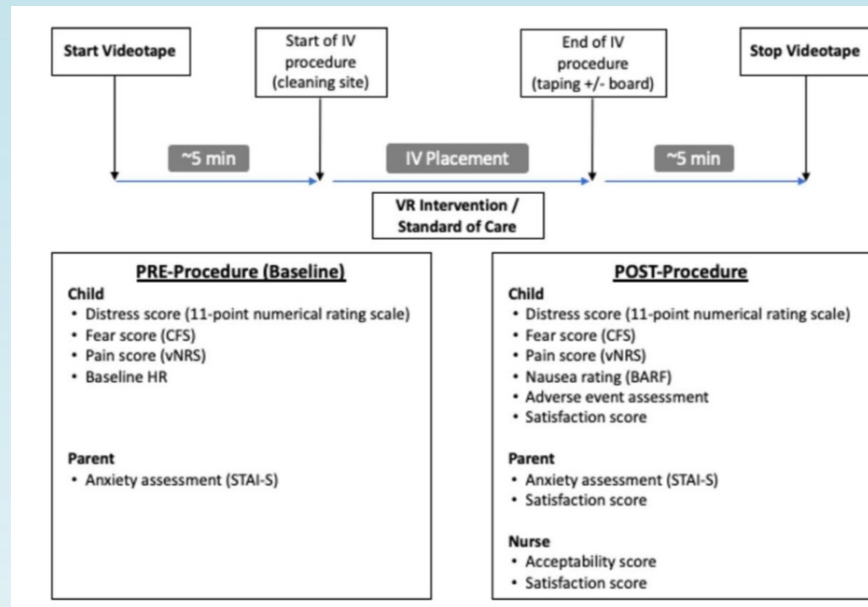
[Pediatric Surgery International](#) **37**, 1437–1445 (2021) | [Cite this article](#)

VR is a feasible alternative to sedation or GA for select pediatric patients undergoing minor surgical procedures.

BMJ Open Virtual reality-based distraction for intravenous insertion-related distress in children: a study protocol for a randomised controlled trial

Samina Ali ¹, Manasi Rajagopal,¹ Jennifer Stinson,² Keon Ma,³ Ben Vandermeer,⁴ Bailey Felkar,⁵ Kurt Schreiner,⁶ Amanda Proctor,⁷ Jennifer Plume,⁸ Lisa Hartling ^{1,4}

Methods and analysis This two-armed randomised controlled superiority trial will be conducted in a Canadian paediatric emergency department and will aim to enrol 80 children overall. Children will be randomised to receive either departmental standard of care alone or standard of care plus an immersive VR experience. Children 6–17 years of age who are undergoing IV insertion and have topical anaesthetic application will be considered for inclusion. Our primary objective is to compare the reduction of distress between the two study arms. The primary outcome will be the child's observed distress score as measured by the Observational Signs of Behavioral Distress-Revised tool. Secondary outcomes include the child's pain intensity and fear, parental anxiety, satisfaction with the IV procedure, as well as adverse events. Recruitment launched in September 2020 and is expected to end in March 2022.



Sedazione Digitale per il posizionamento dell'accesso vascolare

JVA

ISSN 1129-7298

J Vasc Access 2017; 18 (4): e50-e51
DOI: 10.5301/jva.5000712

CORRESPONDENCE

Auto-hypnosis before and during vascular
access placement for better patient comfort

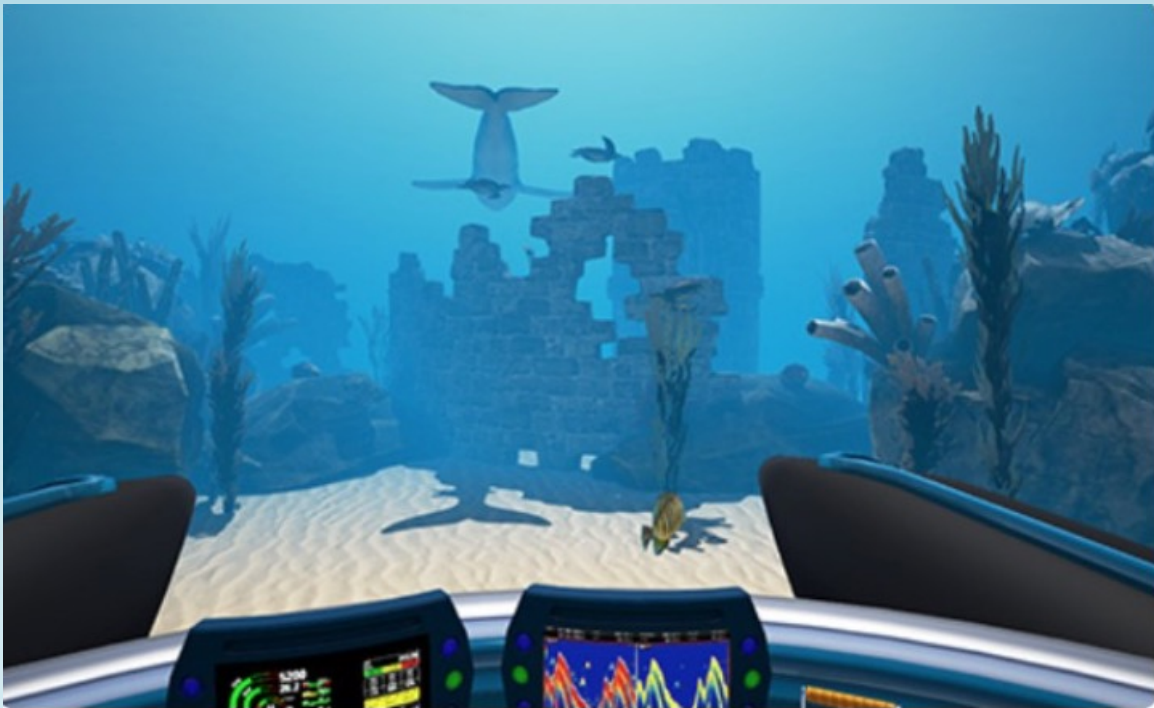
I pazienti oncologici pediatrici che richiedono una terapia endovenosa possono beneficiare della sedazione digitale.

Durante i momenti ansiogeni del trattamento come la chemioterapia, i moduli terapeutici invitano il paziente a rifugiarsi in un mondo completamente diverso per tutta la durata del trattamento in modo da aiutarlo a superare questa particolare fase

Recently, this technique has been used in vascular access placement (Fig. 1). The score of preoperative anxiety measured with a numerical anxiety scale dramatically decreased.

Based on pilot quantitative and qualitative data, the following potential results have been observed for all patients:

- Empowerment and education in coping skills and stress management tools
- 4- to 6-point reduction on VAS self-reported anxiety scale before anxiety-triggering procedures
- No training needed. Using a plug and play solution for patient who have undergone surgery
- Reduction of postoperative pain and nausea
- Reduction of the consumption of postoperative opioids and analgesics for the care teams
- Less stressful work environment (potential lower burn-out rate)
- Satisfaction to be able to offer a non-pharmacological simple and safe solution to state anxiety for medical institutions
- Shorter stay in the recovery room
- Reduction of the length of the stay at the hospital
- Seen as an innovative company.



Grazie per l'Attenzione