Pediatr Radiol (2008) 38 (Suppl 2):S225–S226
DOI 10.1007/s00247-008-0807-z

REVIEW

Avoiding sedation in pediatric radiology

Bernadette L. Koch

Multiple distraction techniques and technical advances have become increasingly available to the radiologist in both the computed tomography (CT) and magnetic resonance (MR) environment to help children through the imaging study, without the need for sedation. The most obvious is multidetector CT technology which has resulted in significant reduction in the need for sedation in all ages [1]. Multiple other techniques and devices include the addition of a certified child life specialist (CCLS) to the radiology team, as well as the use of Sweet-ease, and image viewing systems which are quite helpful in CT, MR imaging (MRI) and fluoroscopy. Sweet-ease (an oral sucrose solution) (Fig. 1) has been used in neonatal intensive care units and emergency departments to decrease procedural pain during heel sticks, venipunctures, catheter insertions, dressing changes, etc. It has also been used in combination with other analgesia for patients undergoing lumbar punctures, chest tube insertions and circumcisions. We have successfully used Sweet-ease as an alternative to sedation, particularly in infants undergoing CT. If this does not calm the child long enough to obtain the imaging study, they can immediately be sedated without significant delay.

MRI compatible video goggles are used in MRI (Fig. 2), digital video disc (DVD) players with the screen on a moveable arm (Fig. 3) and Snoezelen projectors (Fig. 4) are used in CT and fluoroscopy. Not only have these additions resulted in decreased sedation in CT and MRI [2, 3] (and concurrent reduction in associated risks); they have also significantly improved patient and family satisfaction for

Fig. 1 Sweet-ease is an oral sucrose solution, administered via a pacifier to calm infants during imaging

Fig. 2 MRI compatible video viewing systems significantly decrease the need for sedation, particularly in children 4–7 years of age

Dr. Koch has indicated that she has no relevant financial relationships or potential conflicts of interest related to the material to be presented.

B. L. Koch (✉)
Dept of Radiology (ML #5031),
Cincinnati Children's Hospital Medical Center,
3333 Burnet Ave,
Cincinnati, OH 45229, USA
e-mail: koch.bl@cchmc.org

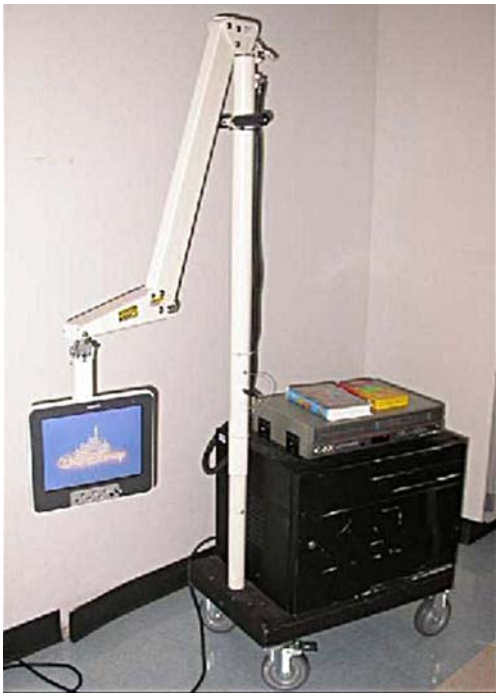

Fig. 3 DVD player mounted on a movable cart, with the screen on a movable arm is particularly helpful in CT where the patients may be imaged prone, supine, feet-first or head-first

those children who previously required sedation to undergo such imaging. Furthermore, the older patients, who do not need sedation for CT and MRI, as well as those children undergoing fluoroscopic examinations, have an improved experience when a CCLS is available and when offered the ability to watch a movie (or projected images) [3, 4].

Fig. 4 Snoezelin projectors are wonderful distraction devices which project still or moving images onto walls, ceilings or CT gantries. They can be very helpful in CT and fluoroscopy

References

1. Pappas JN, Donnelly LF, Frush DP (2000) Reduced frequency of sedation of young children with multisection helical CT. Radiology 215:897–899
2. Harned RK, Strain JD (2001) MRI-compatible audio/visual system: impact on pediatric sedation. Pediatric Radiol 31:247–50
3. Khan JJ, Donnelly LF, Koch BL, et. al. (2007) A program to decrease the need for pediatric sedation for CT and MRI. Appl Radiol 4:30–33
4. McGee K (2003) The role of a childlife specialist in a pediatric radiology department. Pediatric Radiol 31:67–474