SYNOPSIS

# KEY POINT SUMMARY

## OBJECTIVES

To test the hypothesis that visual distraction may also decrease the requirement for sedatives and that audio and visual distraction may have additive beneficial effects when used in combination.

# Can visual distraction decrease the dose of patient-controlled sedation required during colonoscopy?

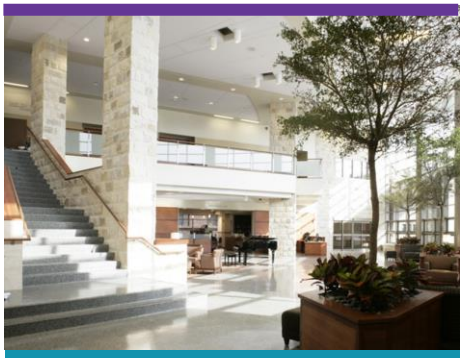
*Lee, D.W., Chan, A.C., Wong, S.K. , Fung, T.M., Li, A.C., Chan, S.K., Mui, L.M., Ng, E.K., Chung, S.C.,* 2004 / *Endoscopy, Volume 36, Issue 3, Pages 197-201*

## Key Concepts/Context

There is a compelling body of literature on using positive distractions to reduce anxiety, and perception of pain, and this article adds to this body of knowledge. It also looks at the importance of taking a multi-modal approach (visual and auditory) to get the most impact. The authors of this paper previously demonstrated that audio distraction (using relaxation music) could lead to a decrease in the dose of sedative medication required during colonoscopy. This work takes their previous work further looking at both visual and auditory components. It is particularly relevant in the context of colonoscopy and endoscopy which are invasive procedures and may need sedation. Ways for reducing use of sedation, without affecting patients' tolerance and satisfaction, are key.

## Methods

165 consecutive patients undergoing elective day case colonoscopy (age range 16-75) were recruited between Apr and Nov 2001. Patients with a colectomy, or history of allergy, were excluded. Those unwilling to participate were excluded before randomization. Participating patients were randomly assigned using computer generated numbers into three groups: 1) Group 1: Visual Distraction and Patient Controlled Sedation (PCS). 2) Group 2: Audiovisual distraction and PCS, 3) Group 3: PCS alone (control). Drugs were delivered to the patient via a PCA pump in response to pressure on a hand held button controlled by the patient. Audio visual/ visual distraction was provided by an Eyetrek system with a pre-set homemade movie with mainly scenic views, with/ without classicial music. All patients put earphones in their ear even if they werent listening to music. Primary outcome measure was the dose of PCS consumed. Other outcome measures included the number of hypotensive episodes, oxygen desaturation, recovry time, pain score, satisfaction score, and patients willingness to use the same mode of sedation again. All recovery nurses were blinded to the sedation room to which patients were assigned. Study was approved by the hospitals ethics committee and patients signed



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an informed consent before they were recruited. Statistical tests used to analyze the data included Peason chi-square, for categorical data, and ANOVA for continuous data.

## Findings

Mean dose of sedation used in group 2 (audiovisual distraction) was lesser than group 1(visual distraction) and 3(no distraction: control). Similarly pain score was significantly lower, in group 2 compared to the other groups. Patients in groups 1 and 2 were more willing to repeat the procedure using the same mode of sedation compared to group 3 (control).

Authors conclude that visual distraction alone does not lead to a decrease in the dose of sedative medication, but when audio distraction is added the there is a significant decrease. However, both visual and audiovisual distraction can improve patients satisfaction scores, and willingness to repeat the procedure.

## Limitations

1. Endoscopists were not blinded with regard to use of audiovisual equipment.

2. Patients in the control group may have reported lower satisfaction since they were not receiving any "new" treatment

3. Mean age of patients was low since only day case patients were included, study may need to be replicated with older patients

4. Only home-made movies with scenery and classical music were used and further research is needed on whether different types of movies and music have different effects.

## Design Implications

The sensory environment should be carefully designed in patient areas. Multi-sensory Audiovisual Distractions can be very powerful in reducing anxiety, pain and even sedation, which has a potential impact on costs and the business case.