

## **Designed sound environment for heart patients before and after invasive procedures**

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Immediately following our first study\* involving music for patients undergoing invasive coronary procedures in the Cath. lab., we initiated music study two, focusing on the effect of music options before and after invasive coronary procedures.

Our new knowledge about the effects of music *during* these examinations naturally leads to the question as to whether music can be a positive factor for patients during this anxious waiting time – and whether music can also be a positive factor for patients both before and after the invasive procedures.

Patients were offered headphones and a portable CD player (Discman) playing specially composed music at the time where pre-medication was administered. Patients were also offered the same music via Discman following the examination, during bed rest.

Music project two was carried out in cooperation with one of the two associated wards (ward S2) in the department of Cardiology in Aalborg.

### **Design and methods**

The study involved 163 patients (61% men and 39% women) in relation to an elective invasive coronary procedure, who were divided into two groups. The first group (the music group: 79 patients) were given the opportunity to listen to specially composed music (via headphones) before and after the invasive procedure. The other group (84 patients) were not given this opportunity. Both groups listened to music during the procedure (played over ceiling suspended loudspeakers). The music used was specially composed for the purpose by Danish composer, Niels Eje, who has previously composed music for use in specific treatment and health care situations in connection with studies carried out by the Musica Humana project group.

Patients were included in the project and received instructions on participation in the ward. The participating patients were divided into two groups – a music group and a control group.

Patients who received a Discman and headphones were shown how to use them. The sound level was fixed, and patients were encouraged to lie in bed, listening to the music, during the administration of pre-medication. Pre-medication is a standard procedure in connection with the examination of coronary arteries. A Stesolid 5 mg tablet is usually given approx. one hour prior to the expected examination time.

Patients in the control group (who simply listened to the hospital's normal sound environment), followed the normal procedure and received pre-medication (also a Stesolid 5 mg tablet), and had the same waiting time in bed prior to their examination.

Upon arrival at the Cath. Lab., where the examination and any treatment took place, selected music was played on ceiling-suspended loudspeakers during the examination, in accordance with normal procedure.

Patients were interviewed using an interview guide immediately after the examination, and 2-3 hours after arriving in the ward following examination.

Following the examination/treatment, patients in the music group were again given the opportunity to listen to music on a Discman. This was optional, as we know from experience that many patients need to talk to staff, family members or fellow patients following an examination/treatment that could have major implications for the patient. We did not wish to stand in the way of this need.

## **Results**

86% of patients in the music group liked the music

82% of patients felt that the music had a positive effect on their wellbeing

62% of patients chose voluntarily to listen to the music following the procedure

### **Comments on the music:**

- "The music helped me to feel less tense"
- "The music reduced my anxiety"
- "The waiting time was pleasant"
- "The music helped me to feel comfortable"

As an example of comparison between the *music group* and the *non-music group*, this study showed that within the total group of patients who described their experiences before and after the invasive procedures as "Very pleasant", the percentage was twice as high in the music group in both situations compared to the non-music group:

"Very pleasant" (before): Music group = 13 %    Non-music group = 6 %

"Very pleasant" (after):    Music group: = 6%    Non-music group = 3%

## **Conclusion:**

It is evident from this study that heart patients can, to a large extent, have a positive experience from listening to suitable music before and after a heart examination. It is also evident that the offer of music must be given by staff in the heart ward, since patients rarely ask for music in this situation, despite a subsequent positive desire for it. Our studies indicate that the international recommendations published in 2002 relating to the use of music in hospitals to alleviate patient anxiety and stress also apply to heart patients before, during and after a heart examination/treatment. Each ward should therefore structure the music and sound environment in such a way that this simple initiative improves patient well-being and alleviates anxiety and stress during their admission.

\* Article published in the **European journal of Cardiovascular Nursing** [doi:10.1016/j.ejcnurse.2003.10.001](https://doi.org/10.1016/j.ejcnurse.2003.10.001)

"Specially selected music in the cardiac laboratory—an important tool for improvement of the wellbeing of patients", October 2003.