

MusiCure®

MUSIC AS MEDICINE

EVIDENCE BASED MUSIC AND NATURE FILMS.

20 years of creative development and independent research.

Published in more than 16 scientific articles in international medical journals.

Sensory stimulation, with documented effect.

MusiCure®

P I L L O W

THE HEALTHY WAY OF LISTENING

A specially designed pillow with high quality built-in speaker cabinets.

MusiCure Pillow can be used with any kind of sound device.

Hospital approved hygiene covers.

MusiCure®

S T R E A M

BRING IN NATURE!

More than 30 hours of MusiCure contents, on one streaming platform. Life-affirming inspiration and nature atmospheres.

Direct access to 4 specific streaming channels:

1. MusiCure Music
2. MusiCure Nature Films
3. Procedure programs
4. Night/Sleep channel

MusiCure

IN HEALTHCARE

Creating a life-line to nature and positive sensory stimulation, with specially composed evidence-based music and films with nature atmospheres from around the world.

MusiCure in Healthcare®

- af Inge Mulvad Eje og Niels Eje, 2021



- Introduktion og Baggrund – *MusiCure*
- Fundament for *skabelse og udvikling*
- Musik som medicin – *forskning og dokumentation*

'Kultur, sundhed og teknologi' en virtuel præsentationsdag den 22.april 2021

I samarbejde med Aarhus kommune, Center for assisted Living Technology og på DokkX præsenteret af CareWare

Baggrund - Inge og Niels Eje



Uddannet på musikkonservatoriet



Gennem 1980erne ansat i symfoniorkestre i København



Selvstændige fra 1990 – bl.a. med Trio Rococo



Fra 1998 introduktion af MusiCure –musik som medicin’



Filmproduktion og streaming service – musik, film, procedure og nat/søvn programmer



Udvikling af MusiCure Pillow

MusiCure – 'musik som medicin'

Udvikling af specielt produceret musik og lyd-miljøer gennem mere end 20 år

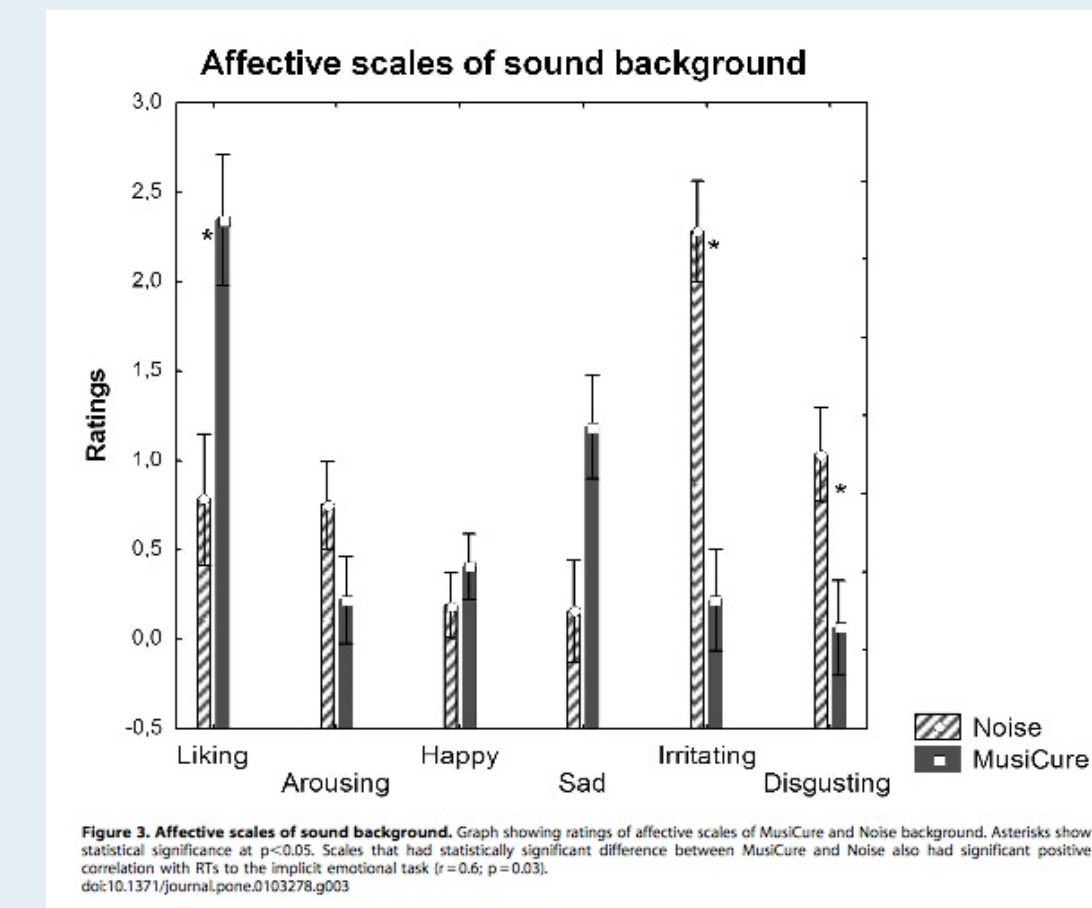
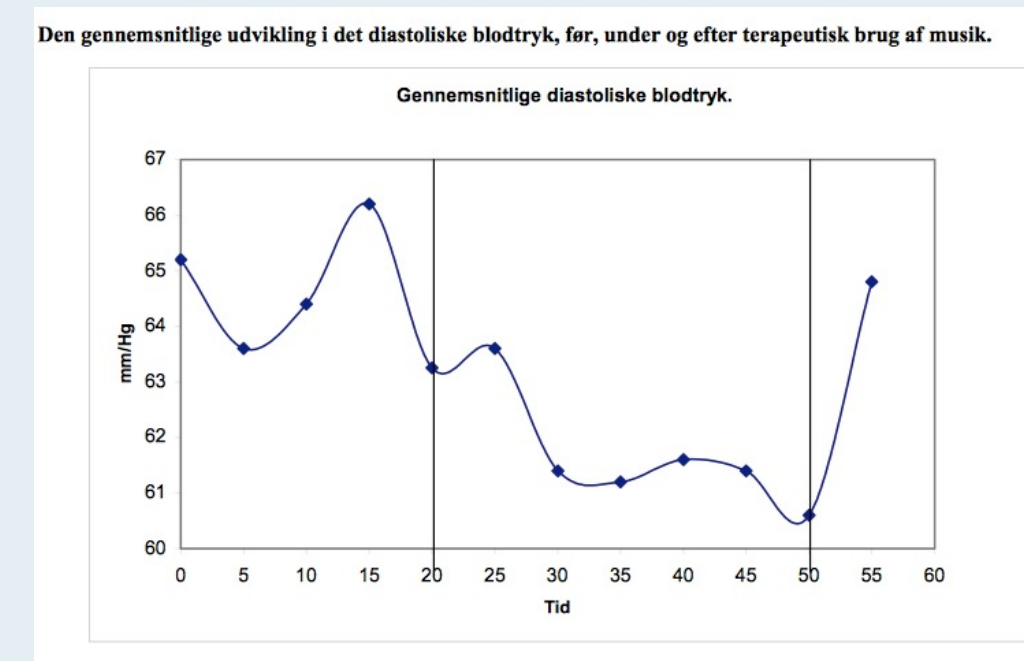
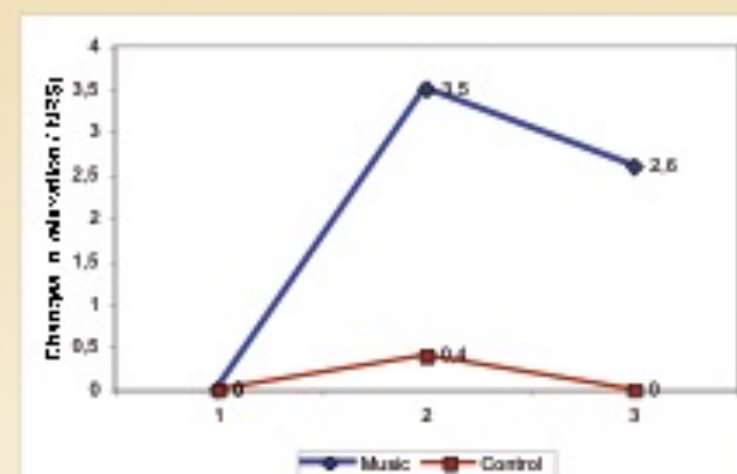
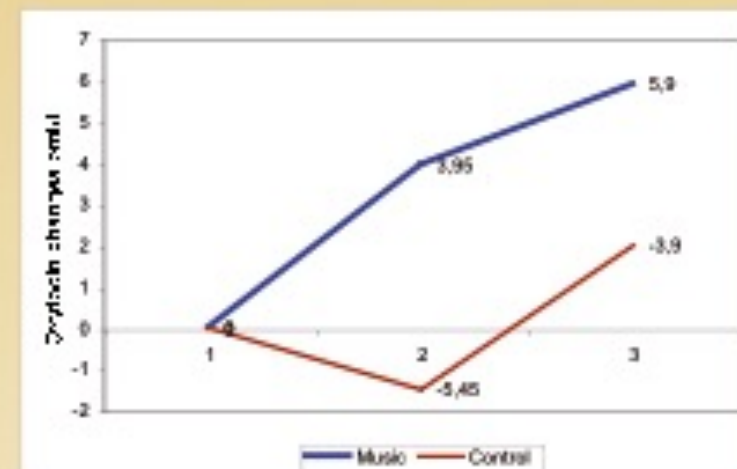


MusiCure er skabt af komponist Niels Eje og producer Inge Mulvad Eje

Musikken anvendes i dag på hospitaler og plejecenter i mange lande.

Musikkens virkning undersøgt og målt med videnskabelige metoder – projektet startede på Rigshospitalet i 1998:

Fundamentet for skabelsen er medicinske studier med patienter på sygehuse i Danmark og udlandet



Følte du dig rolig og afslappet, da du hørte musikken under dialysen?

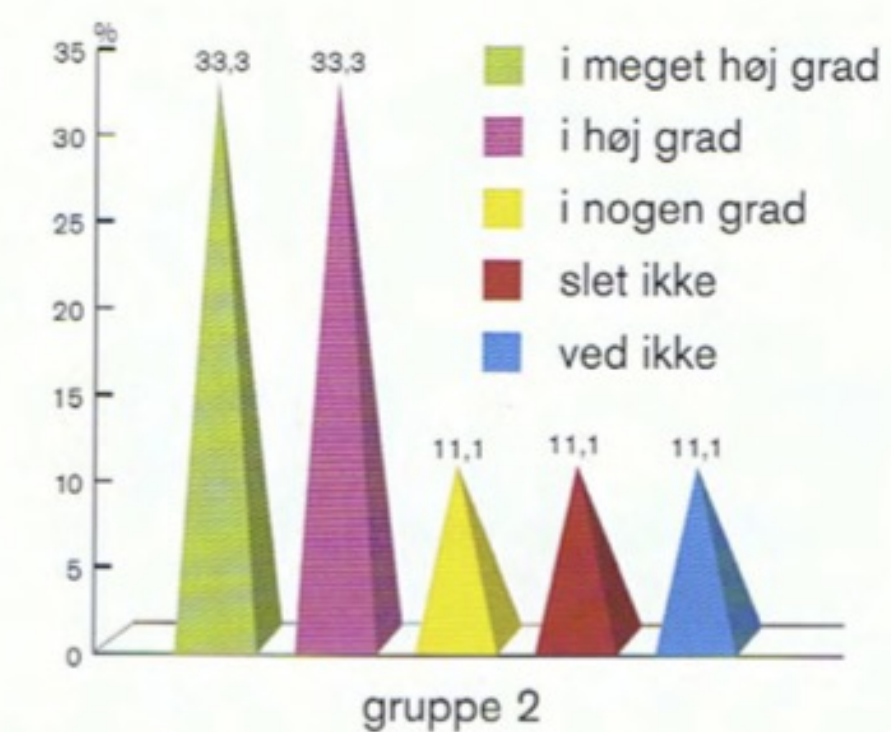
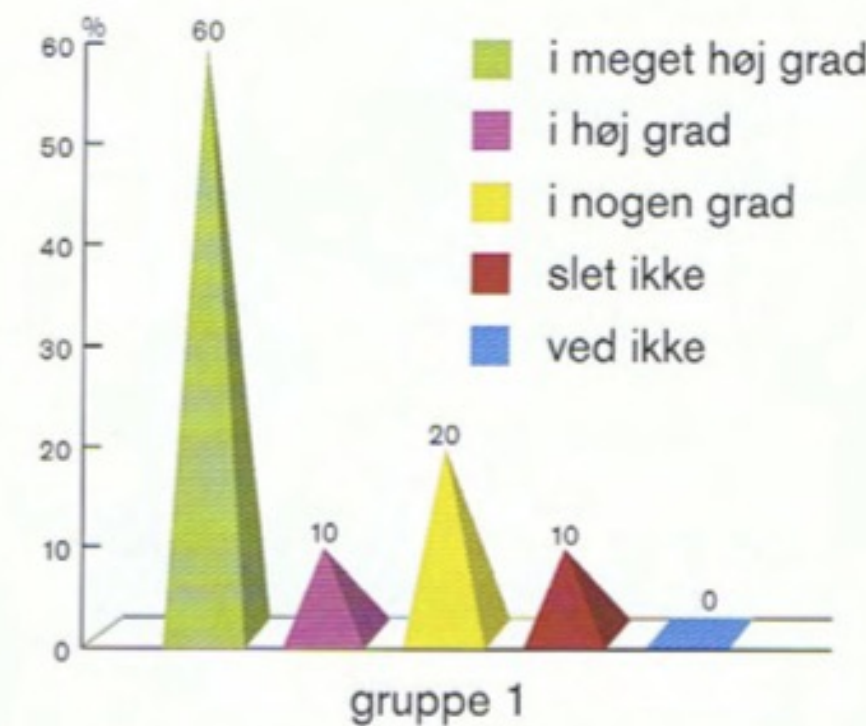


Fig. 1. Gruppe 1; Første dialyse med musik. Gruppe 2; Anden dialyse med musik.

MUSICA HUMANA PROJEKTET



Idégrundlag

Støtte til projektet



Komponist Niels Eje,
Overlæge Lars Heslet

Rigshospitalet

Bevilling fra Egmont Fonden 1998

Aalborg sygehus & Universitet

Skejby sygehus

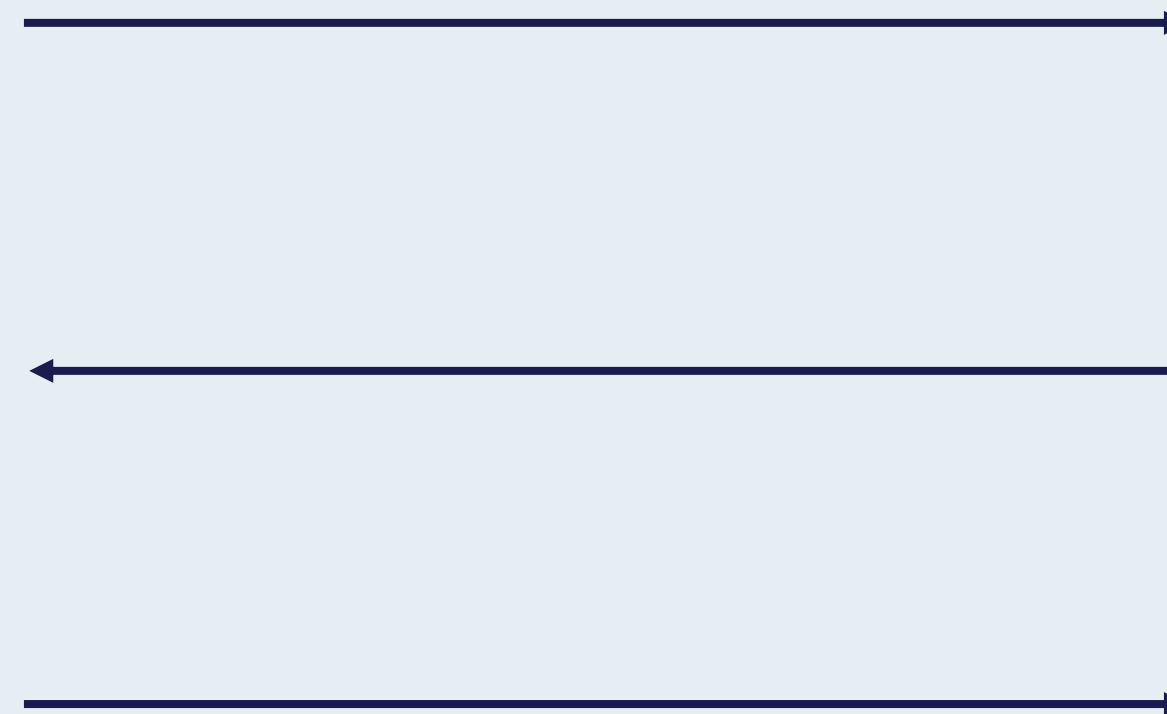
Odense Universitetshospital

Horsens sygehus psykiatriske afdl., Ullevål Universitetssygehus, Örebro Universitetssygehus,
MAS-Malmö, Universitetssygehuset Herlev, Northwest Medical Centre, Seattle.....

← Internationalt netværk →

Idégrundlag: Tværfaglig viden og erfaring

Specielt komponeret musik



Medicinsk forskning

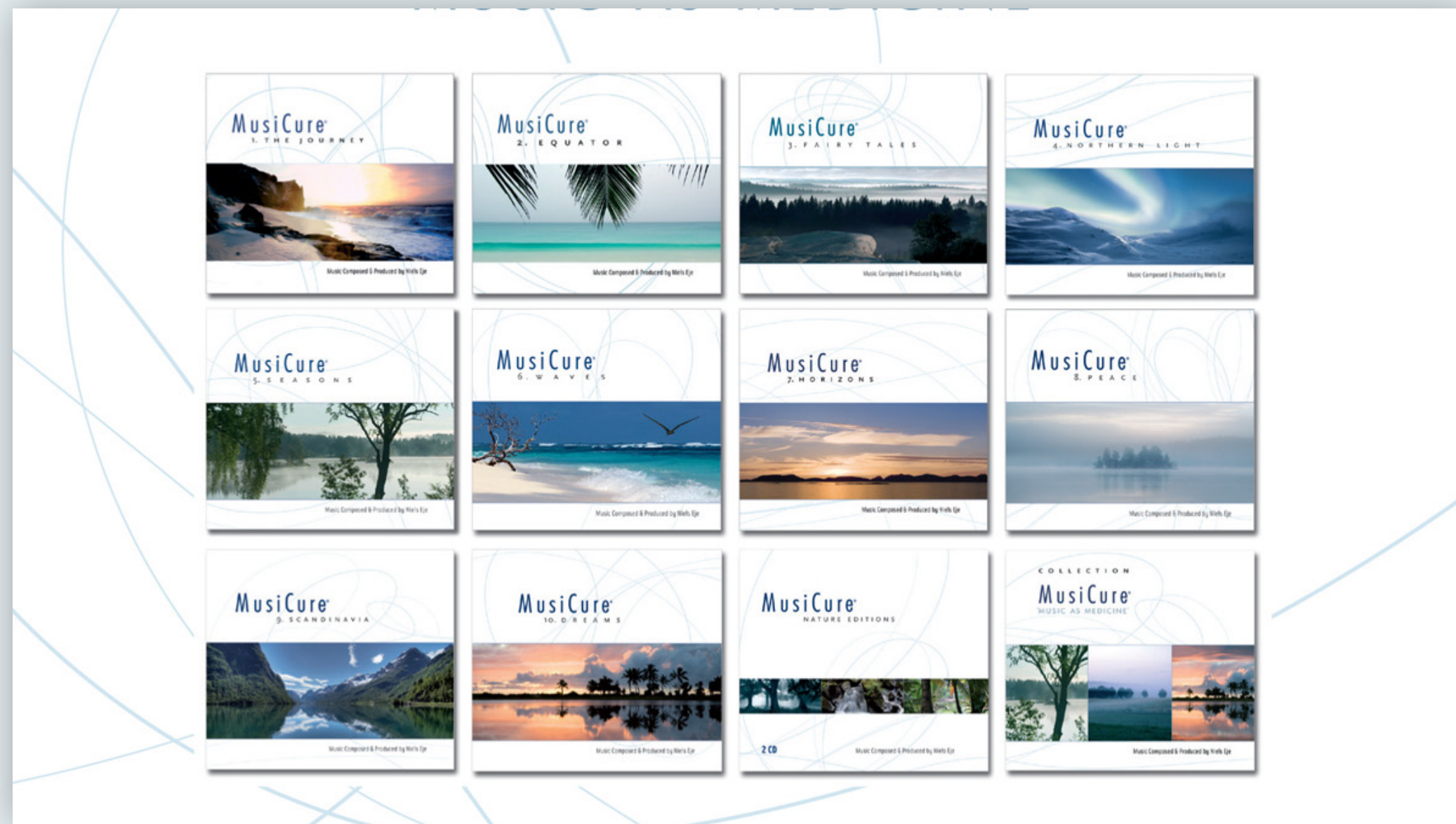


FORSKNING OG VIDENDELING:

Direkte feedback fra patienter/pårørende om oplevelse af musikken

Specifikke forskningsdata om fysiologiske målinger og stress, angst, smerter m.v.

**MusiCure CD serien eksklusivt tilgængelig fra 2003 på apotekerne
og i vores web shop på www.musicure.dk**





MusiCure Pudén



MusiCure film og musik 'BRING NATUREN IND'

De 6 MusiCure streaming kanaler:

1. MusiCure musikanalen.
2. MusiCure film kanalen 'Bring Naturen Ind'
3. Procedure kanalen – specielt tilrettelagte behandlingsprogrammer.
4. Mental stimulation – film med music til ældreplejen.
5. Alle de originale CD MusiCure albums.
6. Nat/Søvn kanalen – med music og specielt redigerede naturlyde

Om skabelsen af musikken og naturfilm til behandlingsformål

MusiCure®



EVIDENSBASERET ORIGINAL MUSIK TIL BEHANDLING

- intervention og udnyttelse af musikkens dokumenterede positive egenskaber



- Original musik komponeret specielt til behandling
- Skabt på basis af erfaringer, feedback og forskning
- Dokumenteret med videnskabelige metoder
- Musik som virker stimulerende og motiverende – uanset musiksmag

Grundlæggende principper for skabelsen af MusiCure

- Universelle, genre-løse lydlandskaber
- Inspiration fra Naturen
- Langsom puls og ensartet dynamik
- Mange oplevelses-lag i 3D lyd
- Akustiske klassiske instrumenter/kunstnere som solister
- Komponeret og redigeret med stor omtanke, på basis af forskning med patienter



Indspilning og produktion af MusiCure i Studiet

Musikken er indspillet på "RIGTIGE" instrumenter

Indspillet af professionelle musikere



MusiCure Film "Bring Naturen Ind"



HD - 4K og drone film, optaget, klippet og redigeret specielt til MusiCure musikken

Naturmotiver og atmosfærer fra hele verden

Skabt specielt til afstressende og terapeutiske formål: audiovisuel naturoplevelse, uden tale!

Se trailers på dette link med eksempler på filmene med MusiCure: [Bring Naturen Ind](#)

MusiCure®

P I L L O W



Specielt designet komfort-skumpude med indbyggede højttalerkabinetter af høj kvalitet



Udviklet til optimal privat og intens lytning.

Forskning og dokumentation

-effekten af MusiCure in Healthcare



Uafhængige forskere i Europa og USA gennemfører studier med musikken

Forskningsresultaterne publiceres i internationale tidsskrifter



Videnskabelige artikler om forskning med MusiCure, publiceret i internationale medicinske tidsskrifter

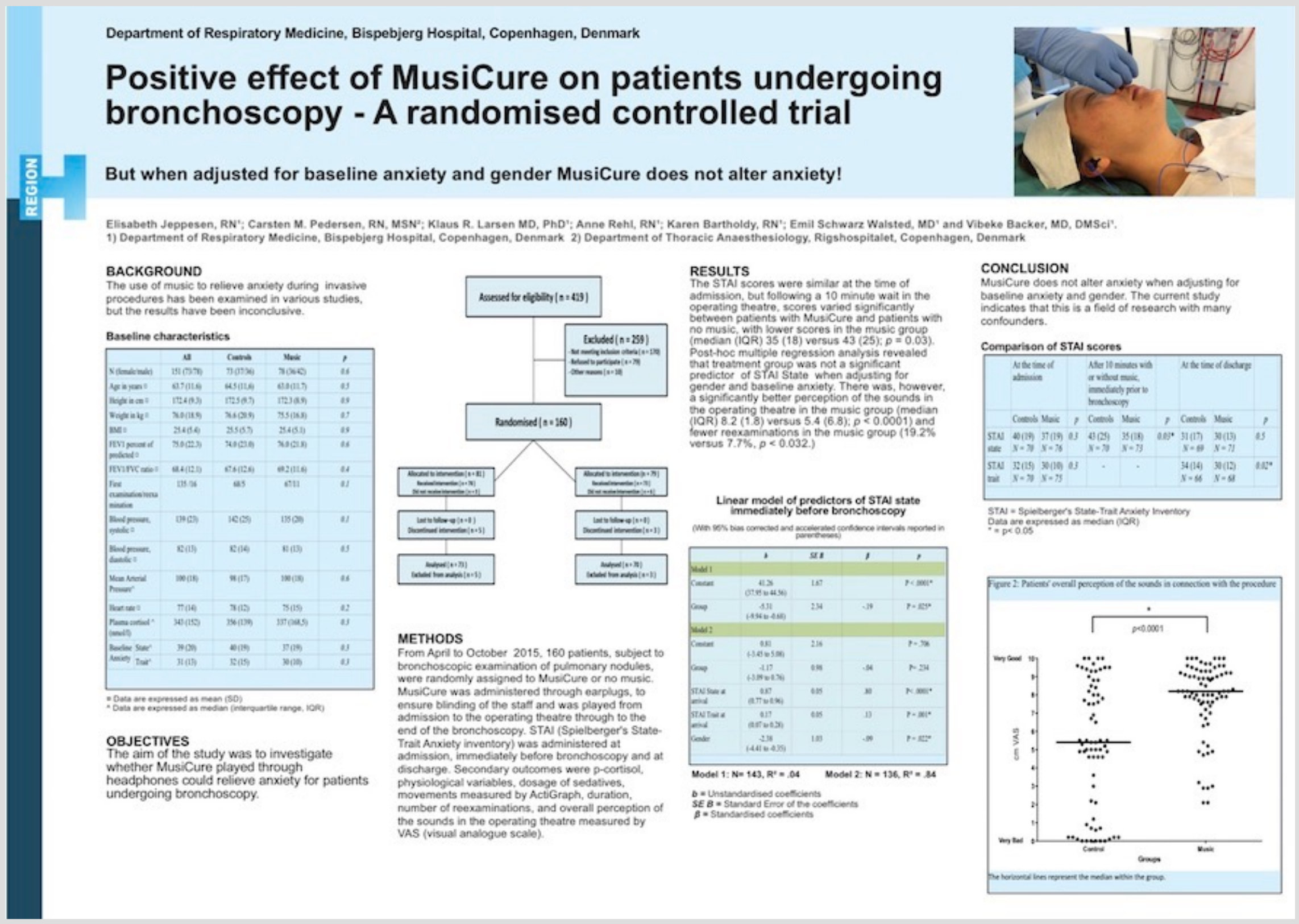
- *European journal of Cardiovascular Nursing*
- *Heart & Lung – The journal of Acute and Critical Care*
- *Intensive and Critical Care Nursing*
- *Pediatric Anesthesia*
- *Journal of Clinical Nursing*
- *Acta Anaesthesiologica Scandinavica*
- *European Journal of Nuclear Medicine and Molecular Imaging*
- *The Lancet...m.fl.*



Patientgrupper inkluderer:

- ICU (intensiv) patienter
- Opvågningspatienter
- Dagkirurgi
- Kard. Lab. (kardiologisk laboratorium)
- Hjertepatienter (operation)
- Peri-operative procedurer (før, under,efter)
- Børn (efter operation)
- Børn med autisme (ASD)
- Scanning procedurer (PET, CT, MEG)
- Geriatriske patienter
- Demens- og Alzheimers patienter
- Dialyse patienter
- Psykiatriske patienter
- Lungemedicinsk ambulatorium
- Koloskopi patienter
- Patienter med delir

Forskning med MusiCure siden 1998: Behandlingsområder og Patientgrupper



Forskningsresultater med MusiCure- *hvad er dokumenteret?*

- Mindsket følelse af Stress, angst og smerte
- Nedsættelse af medicinforbrug (PN medicin*, Morfin, sovemedicin m.m.)
- Sænkning af cortisolniveau (stresshormon)
- Stigning i oxytocinniveau ("fredshormon")
- Generelt - forøger følelse af ro, motivation og inspiration

*Pro necessitate



Studie omkring måling af stresshormon (cortisol) niveau m.v. hos hjerteopererede patienter på Örebro Universitetssygehus, Sverige

MÅL: At evaluere effekten af musik i relation til stress under sengeliggende hviletid på den første postoperative dag for hjertepatienter



The effect of music intervention in stress response to cardiac surgery in a randomized clinical trial

Ulrica Nilsson, RNA, PhD

OBJECTIVE: To evaluate the effect of bed rest with music on the first postoperative day to decrease stress for patients who have undergone heart surgery.

METHODS: A repeated-measures randomized controlled trial was used. The study took place in a cardiothoracic intermediary unit of a university hospital in Sweden. Fifty-eight patients who had undergone open coronary artery bypass grafting or aortic valve replacement surgery were included. Stress response was assessed by determining the serum cortisol, heart rate, respiratory rate, mean arterial pressure, arterial oxygen tension, arterial oxygen saturation, and subjective pain and anxiety levels. At 12:00 noon on postoperative day 1, patients were allocated to receive 30 minutes of uninterrupted bed rest with music and then 30 minutes of bed rest or alternatively 60 minutes of uninterrupted bed rest. The music was soft and relaxing, included different melodies in new-age style, played with a volume at 50 to 60 dB, and distributed through a music pillow connected to an MP3 player.

RESULTS: After 30 minutes of bed rest, there was a significant difference in s-cortisol levels between the groups; 484.4 nmol/L in the music group versus 618.8 nmol/L in the control group ($P < .02$). However, this difference in s-cortisol levels was not found 30 minutes later (ie, after a total of 60 minutes). There was no difference in heart rate, respiratory rate, mean arterial pressure, arterial oxygen tension, arterial oxygen saturation, and subjective pain and anxiety levels between the groups.

CONCLUSION: There is sufficient practical evidence of stress reduction to suggest that a proposed regimen of listening to music while resting in bed after open heart surgery be put into clinical use. (Heart Lung® 2008;xx:xxx.)

Efter 30 minutter sengehvile, var der en signifikant forskel i cortisol niveauer mellem de 2 grupper.

Table II

Comparison of cortisol, hemodynamic parameters, arterial blood gases, and subjective experience of pain and anxiety between patients listening to music (n = 28) and controls (n = 30) during rest

	Pre-value; 12:00 noon mean (SD)	Post-value 1; 12:30 P.M. mean (SD)	Post-value 2; 1:00 P.M. mean (SD)
S-cortisol (mmol/L)			
Music	630.7 (259.4)	484.4 (209.4)*	426.6 (167.8)
Control	766.3 (270.7)	618.8 (218.9)	496.9 (184.5)
MAP (mm Hg)			
Music	79.3 (13.4)	75.1 (12.4)	73.9 (10.7)
Control	76.6 (12.5)	72.4 (10.1)	73.3 (9.6)
HR (bpm)			
Music	79.0 (12.5)	78.1 (11.0)	77.7 (11.5)
Control	77.6 (11.2)	76.3 (10.1)	76.7 (9.9)
RR (bpm)			
Music	18.1 (4.8)	15.9 (3.6)	15.8 (3.6)
Control	17.4 (3.2)	17.1 (3.0)	17.6 (3.7)
PAO ₂ (kPa)			
Music	11.2 (2.2)	—	12.0 (2.1)
Control	10.8 (1.5)	—	11.1 (1.8)
SAO ₂ (%)			
Music	95.8 (2.0)	—	96.4 (1.4)
Control	95.5 (1.9)	—	95.9 (1.4)
Pain (0-10)			
Music	3.3 (0-8)†	1.9 (0-7)†	1.6 (0-6)†
Control	2.7 (0-10)†	1.4 (0-10)†	1.7 (0-10)†
Anxiety (0-10)			
Music	1.6 (0-8)†	.9 (0-9)†	.7 (0-6)†
Control	1.7 (0-10)†	1.2 (0-10)†	1.2 (0-8)†

MAP, Mean arterial pressure; HR, heart rate; RR, respiratory rate; PAO₂, arterial oxygen tension; SAO₂, arterial oxygen saturation; SD, standard deviation.

*P < .02.

†Range.

Perioperative music may reduce pain and fatigue in patients undergoing laparoscopic cholecystectomy

M. GRAVERSEN and T. SOMMER

Department of Surgery, Randers Region Hospital, Randers, Denmark

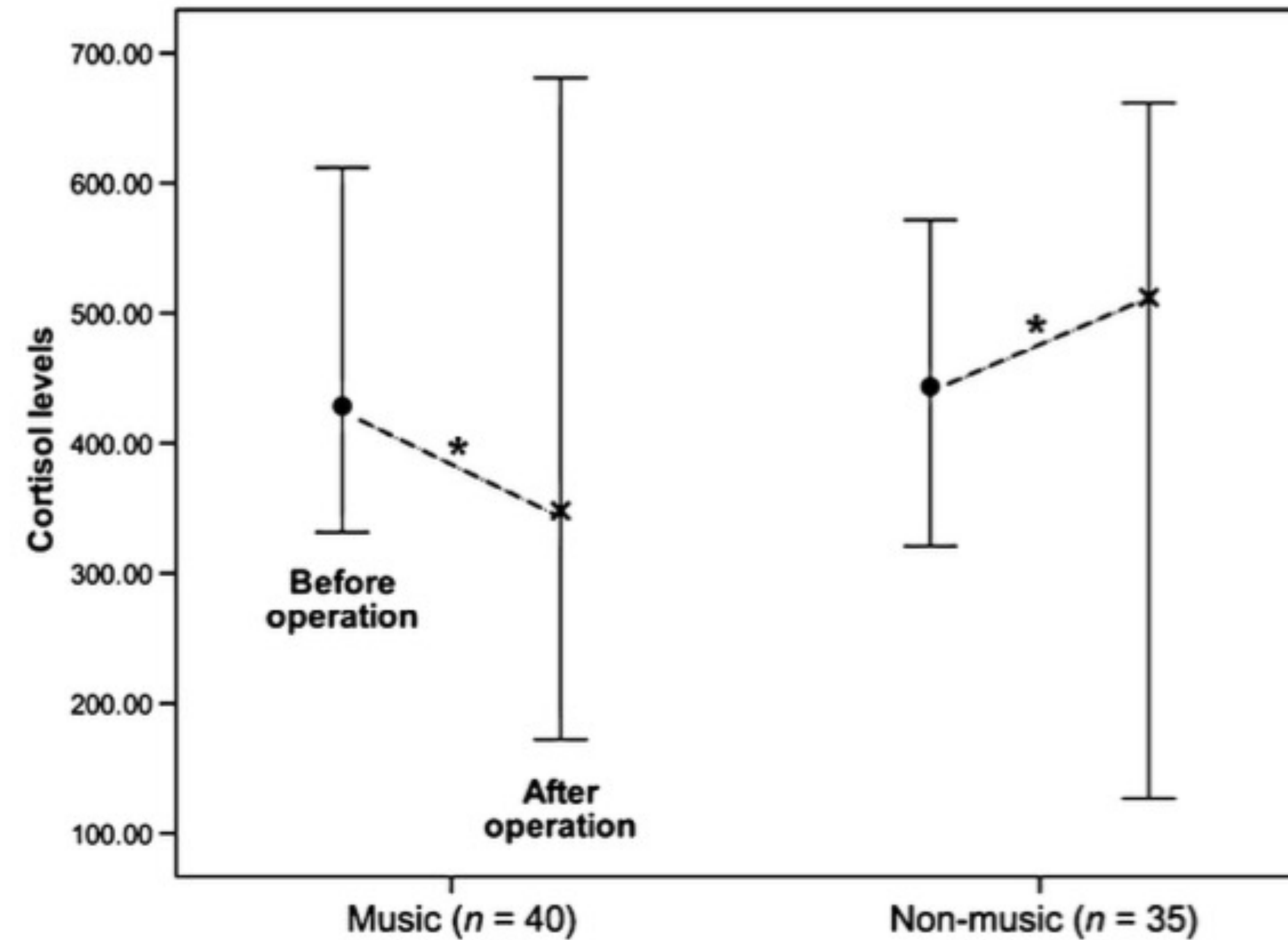


Fig. 2. Cortisol levels (nmol/l) before and 2 h after surgery in the two groups. $n = 75$ (40 exposed to music and 35 not exposed to music). Data are reported as medians and interquartile ranges. *Statistically significant ($P < 0.001$).

Opfølgende studie med en tilsvarende patientgruppe – her med fokus på hormonet "Oxytocin" og afslapning.

Randomized clinical trial examining the effect of soothing music in response to relaxation during bed rest after open-heart surgery

Nilsson Ulrica, RNA, PhD, Assistant Professor
Department of Anaesthesiology and Intensive Care and Centre for Health Care Sciences
Örebro University Hospital and School of Health, Örebro University, Sweden

Background

Music interventions have been evaluated as an appropriate intervention to reduce pain, stress and anxiety in a number of clinical settings. A new challenge is to study if music can influence the relaxation system, which incorporates oxytocin which is a hormone synthesised in the hypothalamus.

Aim

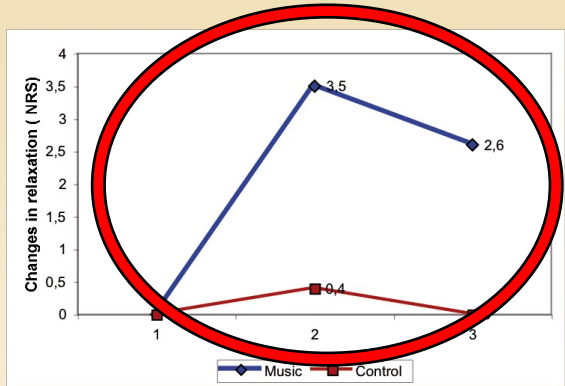
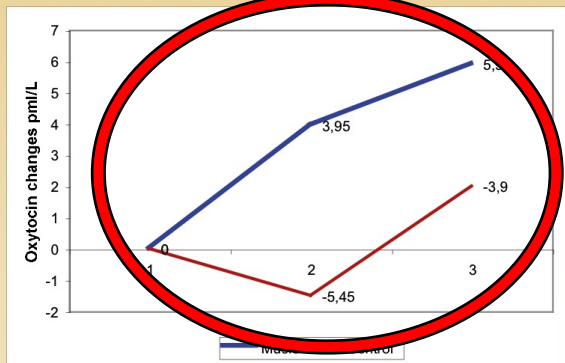
To evaluate the effect of bed rest with music on relaxation for patients who had undergone heart surgery on postoperative day one.

Method

A randomised controlled trial with 40 patients undergoing open coronary artery bypass grafting and/or aortic valve replacement surgery randomly allocated to either music listening during bed rest or bed rest only. The music was distributed through a music pillow connected to a MP3 player (Wellness Musicpillow) and the music, MusiCure, (MusiCure) was soft, relaxing, and included different melodies of 60 to 80 beats per minute (bpm) and was played for 30 minutes with a volume of 50-60 dB. Relaxation was assessed during bed rest the day after surgery by determining serum oxytocin, heart rate, mean arterial blood pressure (MAP), arterial oxygen tension (PaO₂), arterial oxygen saturation (SaO₂) and subjective relaxation levels.

Results

In the music group levels of oxytocin increased significantly in contrast to the control group for which the trend over time was negative i.e. decreasing values. Subjective relaxation levels increased significantly more and there were also a significant higher levels of PaO₂ in the music group compared to the control group. There was no difference in MAP, heart rate and SaO₂ between the groups.



Conclusion

Listening to music during bed rest after open-heart surgery has some effects on the relaxation system as regards s-oxytocin and subjective relaxations levels. This effect seems to have a causal relation from the psychological (music makes patients relaxed) to the physical (oxytocin release). Music intervention should be used as an integral part of the multimodal regime administered to the patients that have undergone cardiovascular surgery. It is a supportive source that increases relaxation.

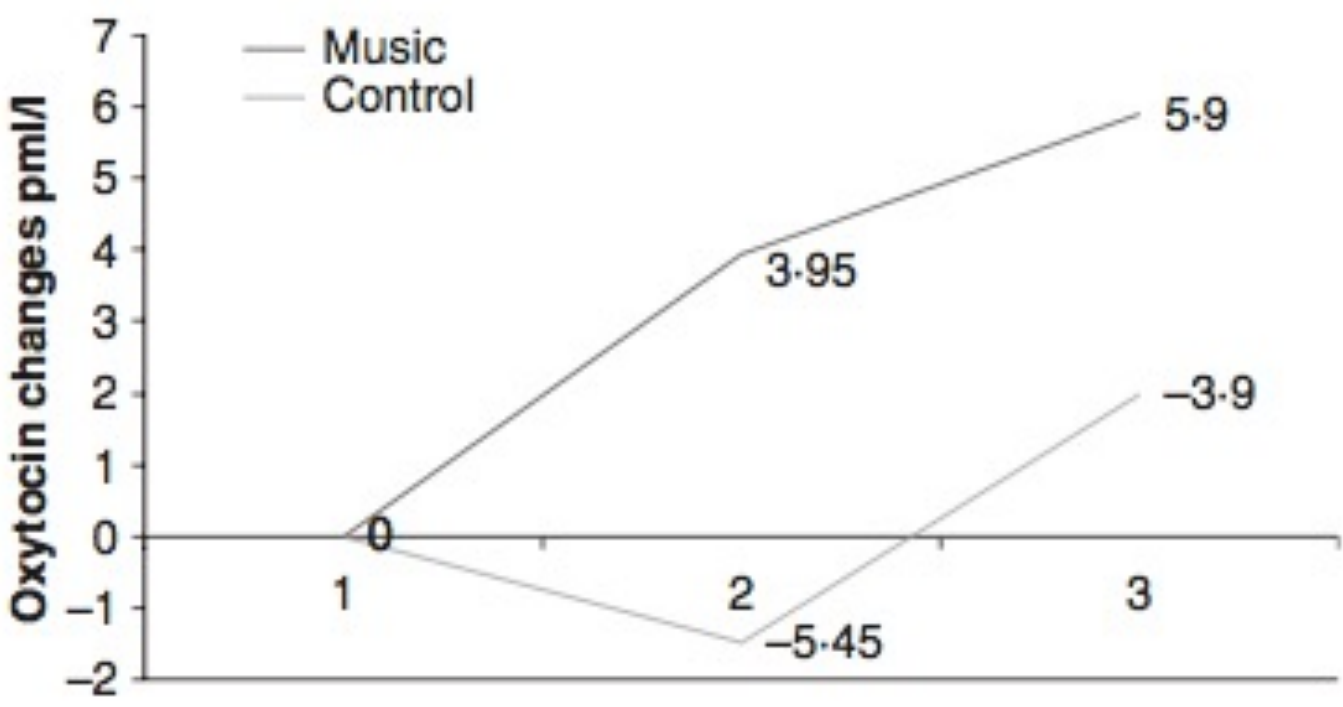


Figure 3 Comparison of oxytocin levels between patients listening to music and controls during rest. 1 = Pre value at 12 noon. 2 = Post value at 12:30 p.m. after 30 minutes of bed rest. 3 = Post value at 13 p.m. after 60 minutes of bed rest.

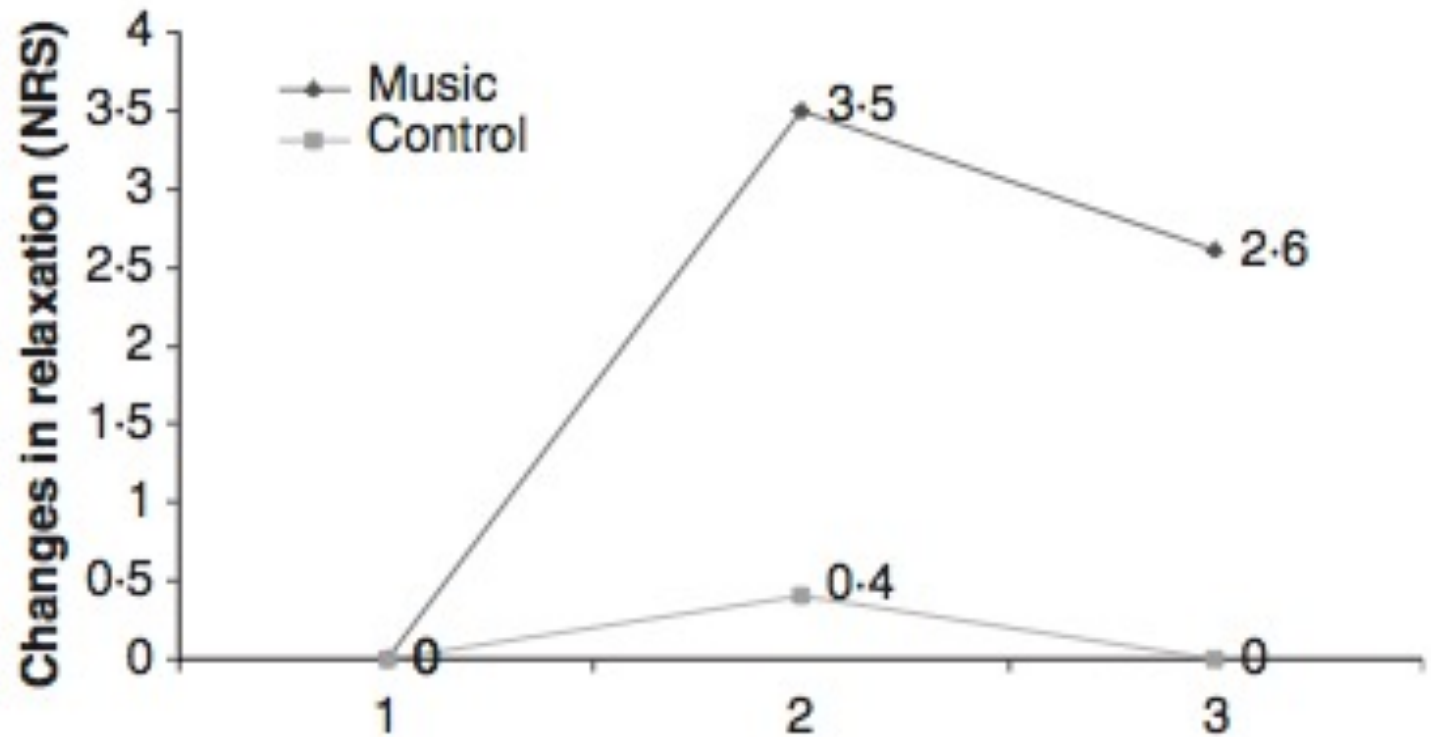


Figure 4 Comparison of subjective relaxation levels between patients listening to music and controls during rest. 1 = Pre value at 12 noon. 2 = Post value at 12:30 p.m. after 30 minutes of bed rest. 3 = Post value at 13 p.m. after 60 minutes of bed rest.

Publiceret i 'Journal of Clinical Nursing, 2009

School-aged children's experiences of postoperative music medicine on pain, distress, and anxiety

STEFAN NILSSON RN, MSc^{††}, EVA KOKINSKY MD, PhD^{*},
ULRICA NILSSON RNA, PhD[‡], BIRGITTA SIDENVALL RN, PhD[†] AND
KARIN ENSKÄR RN, PhD[†]

^{*}Department of Paediatric Anaesthesia and Intensive Care Unit, The Queen Silvia Children's Hospital, Sahlgrenska University Hospital, Göteborg, [†]Department of Nursing Science, School of Health Sciences, Jönköping University, Jönköping and [‡]Department of Anaesthesiology and Intensive Care and Centre for Health Care Sciences, Örebro University Hospital, Örebro, Sweden

Summary

Aim: To test whether postoperative music listening reduces morphine consumption and influence pain, distress, and anxiety after day surgery and to describe the experience of postoperative music listening in school-aged children who had undergone day surgery.

Background: Music medicine has been proposed to reduce distress, anxiety, and pain. There has been no other study that evaluates effects of music medicine (MusiCure[®]) in children after minor surgery.

Methods: Numbers of participants who required analgesics, individual doses, objective pain scores (Face, Legs, Activity, Cry, Consolability [FLACC]), vital signs, and administration of anti-emetics were documented during postoperative recovery stay. Self-reported pain (Coloured Analogue Scale [CAS]), distress (Facial Affective Scale [FAS]), and anxiety (short State-Trait Anxiety Inventory [STAI]) were recorded before and after surgery. In conjunction with the completed intervention semi-structured qualitative interviews were conducted.

Results: Data were recorded from 80 children aged 7–16. Forty participants were randomized to music medicine and another 40 participants to a control group. We found evidence that children in the music group received less morphine in the postoperative care unit, 1/40 compared to 9/40 in the control group. Children's individual

MusiCure[®]
P I L L O W



Smertestudie (+ måling af stress og angst) med børn i skolealderen (7-16 år) på Dronning Silvia's børnehospital, Göteborg

Resultater:

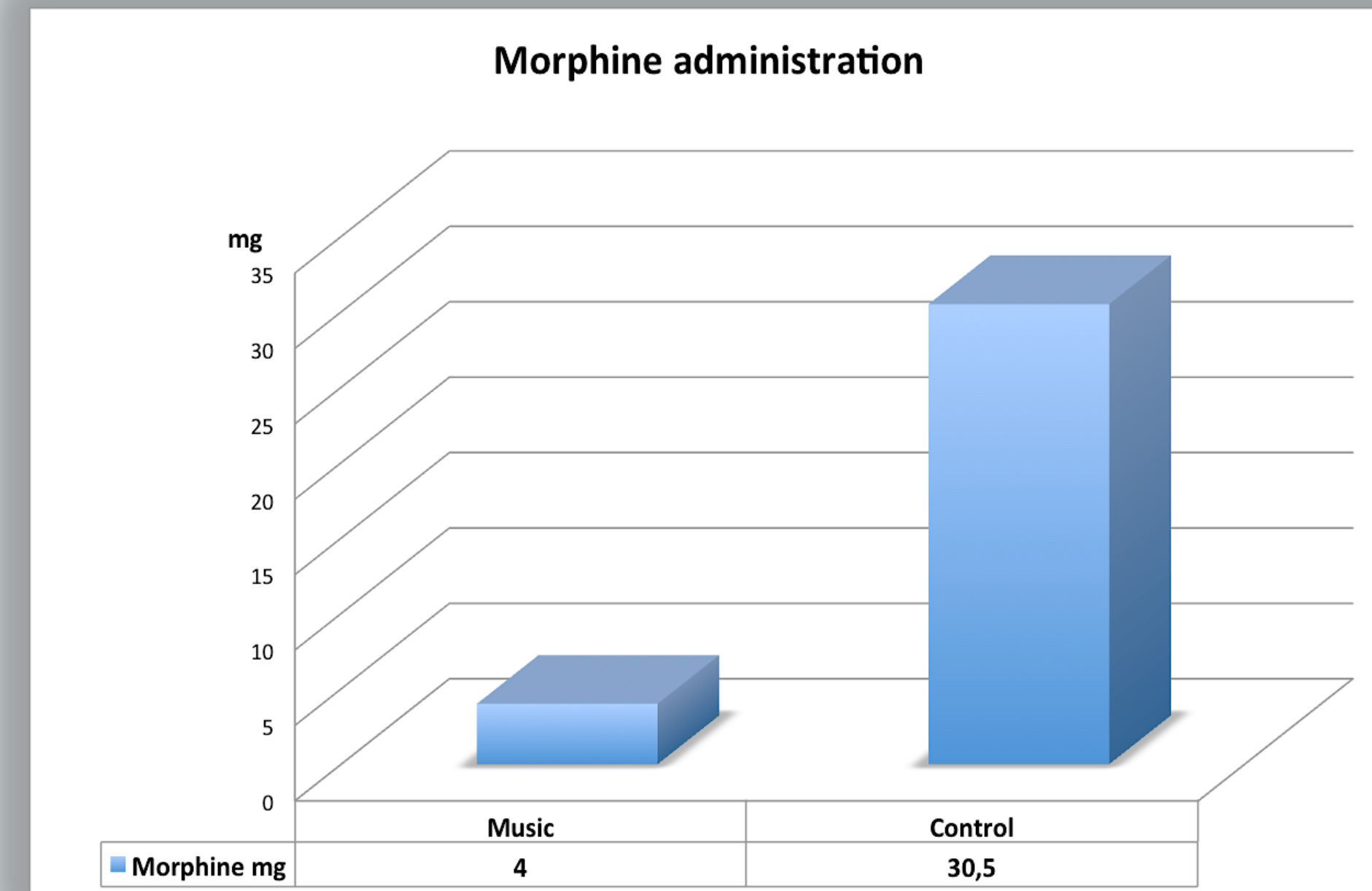
Kvantitativt: Der blev fundet beviser for, at børn i musikgruppen modtog mindre morfin i forhold til kontrolgruppen.

Kvalitativt: Interviews med alle børn viste at Musikken hjalp dem til at håndtere situationen i PACU - børnene i musikgruppen omtalte oplevelsen med musikken som:

”..det virkede beroligende og afslappende.”

”..det var som at gå en tur på landet”

”..musikken gjorde lydene fra det tekniske udstyr mere ubetydelig, og de forstyrrede ikke så meget”.



Behandling af delir med MusiCure Pudén



Delir er betegnelsen for en alvorlig neuropsykiatrisk tilstand, der forekommer i forbindelse med akut somatisk sygdom, ofte hos ældre og demente patienter.

Patienter med delir er ressourcekrævende og behandles normalt med stærk beroligende medicin, som gør at patienten indlægges længere og kræver megen opsyn.

På **Hvidovre hospital** testede de MusiCure Pudén med et specielt musikprogram, på denne patientgruppe med overraskende gode resultater. Størstedelen af patienterne kom meget hurtigt ud af deres delir, fik reduceret medicinering og krævede mindre grad af opsyn fra personalet. Pudén er nu en fast del af inventaret og behandlingen på afdelingen.

Se indslag i [TV2 Lorry og tilhørende artikel](#)



EKSEMPEL



Hvordan MusiCure Pudén kan afhjælpe stress og delir på hospitalsafdelinger

PROBLEM – DELIRIUM

- Et stigende antal patienter lider af delir i forbindelse med indlæggelse på sygehus
- Sygeplejerskerne er overbelastede og stressede
- Pårørende er bange og nervøse
- Patienterne bliver overmedicineret med beroligende sovemedicin

LØSNING



- 70-80% af patienterne kommer ud af deres delir hurtigere
- Brugen af stærk beroligende medicin formindskes
- Patienterne udskrives tidligere
- Puden frigiver ressourcer og tid til sygeplejerskerne
- Hospitalet sparer penge på medicin

De positive resultater vil blive præsenteret med en poster ved konferencen 'International Forum for Quality & Safety' i Bella Centret i København – når den aktuelle corona situation tillader...

De positive resultaterne med
projektet over 300 patienter på
OUH opvågning
offentliggøres nu også
Internationalt

FACTS

Since the start of the project on 1st August 2019, almost
300 patients have completed the evaluation forms.

98%

of the patients expressed that it was soothing and relaxing
to wake up and that they would like to be offered this
opportunity again if they are to have surgery a second time.

94%

of the nurses expressed that it has had a positive effect on
the work environment.

The six recovery beds are all equipped with a flat screen,
which can only be seen by the patient lying in the bed in
question. The music comes from a speaker, which is placed
around the patient's pillow. It is designed so that the sound
is channeled towards the patient's ears, and it can only be
heard quite faintly in the rest of the room.

In the project the music used was the evidence based
'MusiCure – music as medicine' by composer Niels Eje and
films with nature sceneries, produced by Inge Mulvad Eje.

MusiCure[®]
STREAM

References:
Dorthe Hasfeldt-Hansen,
Klinisk Sygeplejeforsker, Ph.d. & Postdoc.
og Afdelingssygeplejerske Britt Darley
Anæstesiologisk-Intensiv Afdeling V OUH



Psykisk velvære – musik som medicin

PULZE.DK LIVSSTIL SUNDHED & HELSE Psykisk velvære – musik som medicin

Skrevet af [Malou H](#)

★★★★★ (1 votes, average: 5,00 out of 5)



Psykisk velvære – musik bruges som medicin på danske hospitaler

Tidligere var den første tanke ofte, at give en urolig patient lidt ekstra medicin for at falde til ro, men sådan er det ikke længere på de danske psykiatriske afdelinger.

MusiCure – musik som medicin

I dag bliver urolige patienter i stedet opfordret til, at lytte til den beroligende musik, MusiCure, der er sammensat af meget harmoniske klange og naturlyde.

Den specielle sammensætning af musik, er en del af det nye forløb, afdelingerne har kørt herhjemme.

Ideen med forsøget har blandt andet været, at give patienterne en bedre og mere naturlig behandling. En behandling patienten også selv kan bruge, når de er blevet udskrevet.

Det er også tanken bag projektet, at give patienterne nogle strategier til, hvordan de selv kan tackle deres problemer derhjemme og opnå bedre psykisk velvære.



Implementeret mange steder indenfor den psykiatriske behandling i hele landet, med det formål:

”...at give patienten en bedre og mere naturlig behandling gennem musik, og et redskab som patienterne selv kan bruge når de bliver udskrevet...”



Eksempler på samarbejde

MusiCure indgår i dag i mange forskellige sammenhænge, herunder også faste samarbejdspartnere. Wellness Nordic, som bl.a. har lanceret Relax Gyngestolen med indbyggede MusiCure programmer til afstresning og beroligelse har været en fast samarbejdspartner gennem mange år:

Wellness Nordic



Introduktion af MusiCure på amerikanske hospitaler gennem Anne Taylor, Scandic Health – vores partner i USA

 scandic health

ServicesBenefitsResearchAboutContact | Log In

To learn more about the benefits of MusiCure call (888) 225-4140



MusiCure Matters

Both doctors and nurses agree that MusiCure dramatically affects the recovery of patients. According to Paul Savoca, MD, Scandic Health's Medical Advisor, "MusiCure does more than just reduce stress in our patients, it is proven to greatly speed recovery time". If your goal is patient wellness offering MusiCure is a critical step in the right direction.

experience it 

Helps lower the stress inducing hormone called cortisol which increases anxiety in patients.

Helps increase the calm inducing hormone called oxytocin which helps with patient well being.

May help decrease the need for medication and drugs during the healing process.



**MusiCure musik og film i USA præsenteret af Anne Taylor,
Ascension Hospital, Detroit og Reston Hospital, Washington DC.**





MusiCure[®]

IN HEALTHCARE

www.MusiCure.dk

www.NielsEje.dk

www.MusicurePillow.dk

www.MusiCurestream.dk

MusiCure in HealthCare® 2021
Kontakt os venligst på: info@musicure.com