

Listening to music linked to significant reduction in anxiety/pain after major heart surgery

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Listening to music is linked to a significant reduction in anxiety and pain after major heart surgery, finds a pooled data analysis of the available evidence, published in the online journal *Open Heart*.

As [music](#) has neither risks nor known side effects, unlike drugs, but may influence [health outcomes](#), clinicians should consider it for patients scheduled for major heart surgery, suggest the researchers.

Heart surgery patients are often anxious before their procedure, and often experience [severe pain](#) afterwards, despite being given sedatives and strong pain relief, say the researchers.

A postoperative stint in [intensive care](#) then exposes them to stressors known to increase [anxiety](#) and pain, such as noise, sleeplessness, and [mechanical ventilation](#). These, in turn, may also increase length of hospital stay and the need for additional medication.

Previous research has indicated that listening to music around the time of any surgery may help to quell patients' anxiety and ease their pain.

To see if music might also help patients undergoing major heart surgery and reduce their length of hospital stay and need for drugs and mechanical ventilation, etc, the researchers searched five electronic databases, looking for relevant clinical trials, published in English up to October 2019.

They reviewed the results of 20 studies, involving 1169 patients, and pooled the data from 16, involving 987 patients.

Most (90%) of the procedures in the included studies were predominantly coronary artery bypass grafts and/or valve replacement.

Validated scales and scoring systems were used to measure anxiety and pain: State Trait Anxiety Inventory; Visual Analogue Scale; Numeric Rating Scale; and the Hospital Anxiety and Depression Scale.

The type of music was usually described as relaxing and free of strong rhythms and percussion (60%), and was mostly provided through headphones (70%).

Patients chose their preferred music from either pre-selected lists (40%), lists selected by the researcher (35%), or opted for their own playlists (15%).

The music sessions were either repeated several times on one day or over several days, or once daily over several days. In 14 studies the music was provided only after surgery; in five, it was provided before, during, and after the procedure.

Patients in the comparison groups received a scheduled rest (8 studies), standard care (6), headphones/earphones without music (4), breathing exercises (1) or a blank tape during surgery combined with standard care afterwards (1).

The pooled data analysis showed that listening to music significantly reduced anxiety and pain after major heart surgery.

The first postoperative music session was associated with the equivalent reduction of 4 points on the State-Trait Anxiety Inventory and of 1.05 points on the Visual Analogue Scale/Numeric Rating Scale for anxiety.

And it was associated with a reduction of 1.26 points on the Visual Analogue Scale/Numeric Rating Scale for pain.

But the effect on [pain](#) wasn't observed when the researchers pooled the data from studies providing music before surgery only, or those offering a mixture of time periods.

Only a few studies took this approach, however, say the researchers.

Several days of listening to music also reduced anxiety for up to 8 days after surgery.

But listening to music wasn't associated with any significant effects on the use of opioids; length of hospital stay; time spent on mechanical ventilation; blood pressure; [heart](#) rate; or breathing rate.

But, again, this may be because these outcomes weren't the primary focus of most of the included studies, suggest the researchers.

Several limiting factors need to be taken into consideration, when interpreting the findings, they caution.

These include the moderate to high risk of potential bias across the included studies, and the inability to ensure patients didn't know which group they had been assigned. The timing, duration, and type of music also varied widely across the studies, some

of which included only small numbers of patients.

Further research will therefore be needed before definitive conclusions can be drawn, suggest the researchers.

Nevertheless, they conclude that listening to music is a "promising" option for [major heart surgery](#) patients.

"Since music intervention has neither risks nor known [side effects](#), but may have a positive effect on patients' health outcomes, healthcare professionals should consider providing perioperative music for patients undergoing cardiac [surgery](#)," they suggest.

More information: Music intervention to relieve anxiety and pain in adults undergoing cardiac surgery: a systematic review and metaanalysis, *Open Heart*, [DOI: 10.1136/openhrt-2020-001474](https://doi.org/10.1136/openhrt-2020-001474)

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