

Application of music therapy in surgery

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Music therapy in surgery is undoubtedly applied in nature and has two main objects of influence: medical staff and patients.

The remarkable Russian surgeon S.S. Yudin. And today in the museum of the Institute of Emergency Medicine. Sklifosovsky, the score of Beethoven's symphony is kept, which this outstanding physician loved and reread before a difficult operation.

S.S. Yudin believed that no other branch of human activity is connected so much with art and crafts as surgery. "Here you need the clarity and speed of the violinist and pianist's fingers....". He also wrote: "Monotonous work without life-giving shakes of poetry, art and travel creates calmness, a habit of shabby legends of antiquity, fitting with vulgarity and petty goals."

The outstanding surgeon of our time V.V. Petrovsky has repeatedly expressed that music has a positive effect on both the patient and the doctor (A.F. Yakovtsev, N.M. Weinshtenker, 2000).

Recently, there has been a clear trend in advanced clinics to use functional music in the operating room. It has been shown that music has a positive effect on the professional actions of doctors, relieves nervous tension and significantly reduces the negative consequences of monotonous strenuous work.

The use of music therapy for surgical patients has two main goals: analgesic and psychotherapeutic.

Randomized studies have been conducted by American anesthesiologists. The first experiment involved 35 patients, undergoing invasive urological procedures that required anesthesia and sedation with propofol. At the same time, some of the patients during the operation listened to music through headphones, while others did not. With the same mean duration of surgical intervention, the dose of propofol to achieve anesthetic effect in the group of patients listening to music was 150 mg, with 240 mg of propofol in the control group ($p = 0.001$) [Koch ME et al. *Anesthesiology* 1998; 89 (2): 300-306].

In the second series of experiments, 43 adult patients of different sex and age who underwent lithotripsy of urinary stones with analgesia with narcotic analgesics were also divided into two groups: the patients of the first group listened to music during the operation, and the second - no. The results correlated with the results of the first series of experiments: patients listening to music required a significantly lower dose of alfentanil, 1600 mcg, than those who did not listen, 3900 mcg ($p = 0.005$).

The following factors play a role in the mechanisms of the analgesic effects of music therapy:

- increasing the pain perception threshold due to the stress-limiting and sedative effect;
- activation of the antinociceptive system due to irritation

vibroreceptors of the skin with acoustic frequencies up to 200 Hz;
- distracting effects.

The main psychotherapeutic goal of music therapy is to relieve psycho-emotional stress and feelings of anxiety, which are often observed in patients in the preoperative period.

In the postoperative period, the main tasks of music therapy are:

- 1) creation at patients positive mood, atmosphere benevolence and trust;
- 2) musical psychic correction problems arising in the process restoration of health;
- 3) activation of adaptive reactions.

Conclusions:

1. Music therapy has a multifaceted effect on patients - analgesic and psychotherapeutic, which allows us to consider this technology promising for use in surgical practice;
2. Music therapy can be used to combat monotony and nervous overload for the medical staff.

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" IMEDIS ", 2004, vol. 2 - C.340-342