

MINISTRY FOR HEALTH AND SOCIAL DEVELOPMENT IN THE RUSSIAN  
FEDERATION

Federal Governmental Budget Institution Saratov, Research Institute for traumathology and orthopedics, FGO SarNIITO Russian Health Ministry

Report regarding use of the device Aquatone at the Orthopedic Childrens' Hospital in Saratov, Russia.

The pediatric ward at the Saratov Research Institute for Traumathology and Orthopedics used the Aquatone device during early post-surgical period in order to reduce pain and swelling in soft parts of surgical wounds of 27 children with orthopedic disease in the lower extremities.

Purpose and methods.

All children were divided into groups according to age.

The first group consisted of children aged 1-3. To reduce swelling in soft tissues, surgical wounds were exposed to Aquatone's level 2 for 10 minutes. For pain in joints caused by a longer period of immobility after plaster or surgery on ankles or tissue around joints, level 3 was used for 10 minutes.

The second group consisted of children aged 4-8. These patients were treated for swelling in soft tissues around surgical wounds for 15 minutes with level 2. The most pronounced pain in joints due to a longer period of immobility caused by plaster or surgery in joints and periarticular tissues were treated for 20 minutes with level 3.

The third group consisted of children aged 8 and over. Treating of swelling in soft tissues around post-surgical wounds for 20 minutes with level 2, for pain in joints after a longer period of immobility due to plaster or surgery in joints and periarticular tissues, 20 minutes with level 3.

In all cases, conditions were eased (calming effects in children, some under the age of 3) in the last phase of the treatment. Swelling in tissues around post-surgical wounds was reduced after 3-4 hours of treatment, even though hydrophilic tissues existed in children aged 1-3.

Mobility in joints, earlier limited due to pain, increased within 5-6 days.

A normalization of hemodynamic parameters (blood pressure heart frequency and puls quality) affected due to pains was noted, especially notable amongst children aged 5-6.

No cases of secondary infection were noted, additionally, the healing process was faster, already after 4-5 days, epithelization of wounds were observed, in all cases post-surgical wounds had healed after 8-10 days after surgery.

In 10 cases, the device was used in combination with other physiotherapy treatment methods (UHF therapy and magnet therapy). More pronounced therapeutical and rehabilitative effects were observed at such combinations.

Conclusion: the Aquatone device is recommended for extensive clinical physiotherapeutical practice, for pain relief in tissues and for swollen soft tissue in children. This is possible thanks to the fact that anti-inflammatory and pain relief effects can be obtained without side effects.

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