GAVIN PUBLISHERS

Journal of Orthopedic Research and Therapy

Singh R and Pickard S. J Orthop Ther: JORT-143.

Brief-Report

DOI: 10.29011/JORT-143.000043

Novel and Cost-Effective Technique for Boosting Sound of Music in Operating Theatre

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Citation: Singh R and Pickard S (2017) Novel and Cost-Effective Technique for Boosting Sound of Music in Operating Theatre. J Orthop Ther: JORT-143. DOI: 10.29011/JORT-143.000043

Received Date: 29 June, 2017; **Accepted Date:** 07 July, 2017; **Published Date:** 14 July, 2017

Background

Playing music during medical procedures is a tradition that dates back to antiquity, when the Greeks identified Apollo as the god of healing and music. Approximately 80 percent of trauma theatre staff report benefits in team member corporation, reduction in anxiety levels and improvements in efficiency [1]. Music, which is generally chosen by the lead surgeon, is played in approximately 70 percent of operations [2]. Relaxing music may not only benefit the trauma surgeon, but also patients. A 2009 study of 372 patients found that playing relaxing music was more efficacious than standard pharmaceutical interventions in curtailing anxiety prior to and post-surgery [3,4]. We present a novel and cost-effective technique for enhancing sound quality projection in the operating room without the need for expensive speaker equipment [5].

Technique

Simply place the smart phone or ipod in a container in the corner of the operating room. Direct the container toward the centre of the operating room where the surgeons are operating. The empty container will amplify and direct the noise very efficiently (Figure 1 and 2).

Figure 1: Placement of phone or ipod in a plastic container/empty sharps box to amplify sound.

Figure 2: Direct the container towards the centre of the operating room for more efficient sound projection.

Discussion

A hard surface will reflect more sound than it absorbs or transmits. Therefore, the output of noise from the phones speaker is reflected towards the centre of the theatre in the direction of the surgeons. According to the inverse square law, the reflected sound from a surface that is in close proximity to the speaker results in sound amplification and less absorption and therefore less wasted sound energy.5 This technique negates the need for purchase and transportation of expensive speaker equipment.

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