



## The a novel arthrocentesis technique with vacuum-assisted irrigation for tmj disc displacement without reduction: a case report: a novel arthrocentesis technique with vacuum-assisted irrigation

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### Introduction

Arthrocentesis is an effective treatment to reduce or eliminate pain, increase maximal interincisal distance, and eliminate joint effusion in patients with disc displacement without reduction. This study aims to expose and discuss a new technique proposal of temporomandibular joint arthrocentesis applied in the treatment of a single case of disc displacement without reduction.

### Objective

To present and evaluate the outcomes of a new arthrocentesis technique for the management of temporomandibular joint (TMJ) disc displacement without reduction.

### Case Report

An 18-year-old female patient sought treatment due to joint pain and mouth opening limitation. The maximal interincisal distance was 30.28 mm. Magnetic resonance imaging confirmed the diagnosis of disc displacement without reduction with signs of joint effusion in the right TMJ. TMJ arthrocentesis was performed under selective sensory nerve block of the auriculotemporal, masseteric, and posterior deep temporal nerves. Two needles were inserted into the upper compartment of the TMJ. In the second needle, a transparent catheter was connected to a vacuum pump. Clinically, after the arthrocentesis, the maximal interincisal distance increased to 46.25 mm, and the patient reported no more pain. After six months, a magnetic resonance imaging was performed to observe the results, and there were no more signs of joint effusion.

### Conclusion

TMJ arthrocentesis was an effective treatment for this patient with disc displacement without reduction. The aspect of this technique that is particularly relevant for clinical practice was the connection of a transparent catheter to a vacuum pump. This allowed the visualization of the solution fluidity and guided the flow of the solution used for joint washing, optimizing the irrigation. However, new studies are necessary to compare different protocols of irrigation with and without the associated use of a vacuum pump.