

Reduction of shoulder dislocation in times of pandemic. A new light shining through an old window

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ABSTRACT

We present the case of a patient with left shoulder dislocation, who consulted for the emergency service of our hospital in the midst of the COVID-19 pandemic. A video shows the Davos reduction maneuver or BHM with which the patient was treated.

Key words: Luxation, method, reduction, shoulder, technique.

Level of Evidence: IV

Reducción de la luxación de hombro en tiempos de pandemia. Una nueva luz sobre una vieja ventana.

RESUMEN

Se presenta el caso de una paciente con luxación de hombro izquierdo, que consulta en el servicio de emergencia de nuestro hospital, durante la pandemia del COVID-19. Se incluye un video donde se muestra la maniobra de reducción de Davos o de Boos-Holzach-Matter con la que fue tratada.

Palabras clave: Luxación; método; reducción; hombro; técnica.

Nivel de Evidencia: IV

INTRODUCTION

Anterior dislocations of the shoulder are a prevalent cause of ER attendance. Despite it being a steady joint with a wide variety of movements in the three-dimensional space, it remains as the joint with the highest frequency of dislocations, with a rate of 8.2 to 29.0 every 100 000 people each year.¹

There is no consensus on the reduction technique to be applied within a range of 25 different maneuvers. The choice depends primarily on the physician's preference and experience, as well as on the possible neurovascular injuries that can be caused by either the maneuver itself or by its incorrect application.²⁻⁵

The «Davos» maneuver, presented for the first time in 1993 in Davos, Switzerland, was named the Boos-Holzach-Matter maneuver (Figure). In this pandemic context, its application is widely applicable as well as highly recommended to health institutions.

OBJECTIVE

The aim of this presentation is to show, through means of an explanatory video, the Boos-Holzach-Matter maneuver for the reduction of shoulder anterior dislocations for the Emergency Room taking into consideration the current state of pandemic. We regard that this technique upholds the appropriate protocols for COVID-19 distancing,⁶ protecting both patients and medical personnel.

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CLINICAL CASE REPORT

A 54-year-old woman checked into the ER of Hospital Interzonal General de Agudos “San Roque” in Gonnet, La Plata, at the beginning of March 2020, in the midst of the COVID-19 pandemic. The patient was brought by the ambulance service and described a fall from her own height due to tripping at her residence. She indicated pain and functional impairment of the left shoulder. She arrived with a face mask due to presenting an unspecified feverish state. In order to follow the COVID-19 protocols⁶, she was interviewed and checked for temperature, which was determined to be at 38.2 °C. Bearing in mind the situation, the protocol established at the time by the Health Department was put into action. Proceeding to the shoulder treatment, we requested front and profile radiographs of the scapula which confirmed a lower anterior dislocation. Once diagnosed, we proposed a self-assisted maneuver so as to achieve a fast and proper reduction, to avoid sedation (which would have implied a referral to the Operating Room and aerosolization due to the manipulation of the air passage), and to maintain the distancing and prophylactic measures required in the COVID-19 protocol. The patient consented and signed an informed consent form. We proceeded to perform a Boos-Holzach-Matter maneuver.

Reduction Technique⁷

The patient was taken to the X-ray Room following ER assessment. After the images were captured, she was helped to sit onto the stretcher. She was asked to flex the knee homolateral to the dislocated shoulder and to place both her hands under the proximal tibia. Other options exist, such as securing the hands to the knee with tape or wrap bandages, or holding them down to prevent them from moving and separating from the knee. Once positioned, she was asked to relax and gently let herself fall backwards, leaning her head rearwards, keeping her shoulders to the front and the elbows extended ([Video ▶](#)), while we helped her maintain a slow and moderate motion. In this manner, the patient felt confident and let herself fall at ease, generating traction with her own body weight and using the hold on the knees as an anchor. In just a few minutes, the reduction was achieved satisfactorily. Subsequently, radiographic control was procured to verify the reduction.⁸ Lastly, the patient was immobilized with a sling and evaluated for any neurovascular anomalies, and later discharged to home recovery.



Figure. Modified Davos technique.⁹

1. The patient is instructed to sit with their back against the stretcher backrest at a 90-100°. Each arm must be secured individually with a wrap bandage or sheet.
2. The physician gently lowers the backrest, asking the patient to lean the head backwards and to keep their back on the stretcher.
3. Next, the dislocation reduces quickly and a standard intervention has to be kept following the reduction.

DISCUSSION

The «Davos» or Boos-Holzach-Matter maneuver is simple, fast, and easy to emulate, and has a low complication rate. Foremost, its self-assisted application makes it accessible for the patient to learn in case the dislocation were to reoccur, avoiding ER attendance or making it applicable in a sporting context.¹⁰ We consider that it should be regarded as a top choice of practice, being that it holds to the principle of medicine: to do no harm (*primum non nocere*).

One due warning for the application of this technique is that it requires comprehensive communication between the staff and the patient, and the ability to relax and follow instructions from the latter.¹¹

On a final note, there has been a previous case report referring to a bilateral anterior dislocation derived from a seizure episode of an epileptic patient. The BHM maneuver was applied on this patient with excellent results, averting the sedation issues that arise in patients with such complications.¹

Conflict of interests: Authors claim they do not have any conflict of interests.

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