

## LEARNING WITH THE ELMO HELMET

*APRENDIZADO COM O ELMO*

*APRENDER CON EL CASCO ELMO*

### ABSTRACT

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Show photographs of the Elmo helmet's implantation process in a Fortaleza's private hospital, in Ceará. Description, through photographs of experiences lived in the Elmo helmet 1.0's implantation in a Fortaleza's private hospital, Hospital Regional da Unimed-HRU. All photographs were duly authorized by the patients, signing the institutional authorization term for image disclosure. With the images we characterize the clinical experiences of 5 (five) patients in special situations in Elmotherapy, all with successful clinical outcome, progressing to hospital discharge. In addition to the expansion of new indications for post-pandemic equipment, it's necessary continuous training of professional categories in Elmotherapy, thus promoting educational health care, in addition to welcoming, the usability with safety for the team and patients.

**Descriptors:** *Noninvasive Ventilation; Technology; Health Education.*

### RESUMO

Apresentar fotografias que mostrem o processo de implantação do capacete Elmo em um hospital privado, em Fortaleza, Ceará. Descrição, por meio de fotografias, de experiências vivenciadas na implantação do capacete Elmo 1.0 em um hospital privado de Fortaleza, Hospital Regional da Unimed-HRU. Todas as imagens clínicas foram devidamente autorizadas pelos pacientes através da assinatura do termo institucional de autorização de divulgação de imagem. Com as imagens caracterizamos as vivências clínicas de 5 (cinco) pacientes em situações especiais na Elmoterapia, todas com desfecho clínico de sucesso, evoluindo para alta hospitalar. Além da ampliação de novas indicações do equipamento pós-pandemia, é necessário que as categorias profissionais mantenham treinamentos em relação a Elmoterapia, promovendo assim, o cuidado educativo em saúde, além do acolhimento, a usabilidade com segurança a equipe e ao paciente.

**Descriptores:** *Ventilação Não Invasiva; Tecnologia; Educação em saúde.*

### RESUMEN

Presentar fotografías que muestren el proceso de implantación del casco Elmo en un hospital privado de Fortaleza, Ceará. Descripción, mediante fotografías, de experiencias en la implantación del casco Elmo 1.0 en un hospital privado de Fortaleza, Hospital Regional da Unimed-HRU. Todas las imágenes clínicas fueron debidamente autorizadas por los pacientes mediante la firma del término de autorización institucional para la divulgación de imágenes. Con las imágenes, caracterizamos las experiencias clínicas de 5 (cinco) pacientes en situaciones especiales en Elmoterapia, todos con un resultado clínico exitoso, progresando hasta el alta hospitalaria. Además de la expansión de nuevas indicaciones de equipos pospandémicos, es necesario que las categorías profesionales mantengan la formación en relación a la Elmoterapia, promoviendo así la educación asistencial en salud, además de la acogida, la usabilidad con seguridad para el equipo y el paciente.

**Descriptores:** *Ventilación no Invasiva; La Tecnología; Educación para la Salud.*

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<https://doi.org/10.54620/cadesp.v15i2.748>

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Submetido 25/08/2021

Accepted for Publication 13/09/2021



## PHOTO 1 FREEDOM AND AUTONOMY

**Objective:** show the possibilities of actions in daily life, such as bathing the patient using the Elmo.

The image shows a possible reality of the patient wearing the Elmo helmet regarding routine activities independently, such as bathing. Functionally independent patient taking a bath, allowing physical and mental health in the face of so many routines and hospital restrictions of an inpatient. It is noteworthy that for this action, regardless of the patient using the Elmo, it is necessary that the service has minimal resources (oxygen cylinders, multi-professional monitoring team) to transport the patient to the bathroom in an adequate and safe manner.

Photo 1 – Routine Hospital Activities performed with ELMO.



Source – Photos Taken by the Authors.

## PHOTO 2 EMPATHY AND HUMANIZATION

**Objective:** Show the relevance of humanized care for the patient with clinical indication for Elmo.

The image shows a patient who met all clinical criteria for wearing a helmet, but remained scared, anxious, worried. Thus, the physiotherapist Dr. Debora Arnoud, with her humanized care, followed with a humane and intelligent approach, proposing to the patient that she would also put on the helmet to show that it was not bad, it would not be uncomfortable, and clarifying for the patient all the possibilities that she

could perform with when using the Elmo (drinking small amounts of fluids, doing imaging tests when necessary, sleeping using the Elmo, taking her medications orally, changing positions in bed, performing respiratory physiotherapy and motor).

With this approach, the physiotherapist managed to get the patient to let the Elmo be applied, where she spent six days in Elmotherapy successfully completed, being discharged from the hospital. ruim, não seria desconfortável, e esclarecendo para paciente todas as possibilidades que ela poderia realizar quando estiver em uso do Elmo (beber pequenas quantidades de líquidos, fazer os exames de imagem quando necessário, dormir em uso do Elmo, tomar suas medicações via oral, mudar de posicionamentos no leito, realizar a fisioterapia respiratória e motora).

Photo 2 – Elmotherapy: reception and care in a hospital environment



Source – Photos Taken by the Authors.

## PHOTO 3 AND LET'S BREATHE

**Objective:** Show the possibility of administering a bronchodilator in the patient using the Elmo.

The image shows the Elmo's functionality in relation to hospital routines, specifically, in the case of this patient with an indication to use a bronchodilator. Of which, the device contains a central entrance called- patient access- that allows the administration of medications via inhalation, as well as the ingestion of small amounts of fluids to the patient. Thus, it is not necessary to remove the Elmo helmet for such hospital routines, contributing to the continuity of Elmotherapy associated with clinical management.

**Photo 3** — Clinical and Educational Care in the Administration of Bronchodilators in Patients Using the Helmet.



Source — Photos Taken by the Authors.

#### **PHOTO 4** **PRONAR IN THE ELMO!? WHY NOT!?**

**Objective:** show that it is possible to carry out the pronation of the patient who is in Elmotherapy.

The image clearly exposes the patient in the spontaneous pronation position, being oriented, sensitized by the physiotherapist about the pronation protocol, number of hours to remain in such therapeutic position, need and functional freedom to lateralize the head and switch arms in terms of comfort of the patient.

**Photo 4** — Elmotherapy and Prone Position.



Source — Photos Taken by the Authors.

#### **PHOTO 5** **LOVE THAT CANNOT BE MEASURED... CELEBRATION OF THE 12 YEARS OF MARRIAGE**

**Objective:** show the possibility of humanized care with the patient using the Elmo, being able to contact their family members.

The image shows the wife of the patient who is wearing the Elmo, who on the day of this visit the two were completing their wedding anniversary. The wife asked if she could take the helmet off for a few seconds just to kiss her husband in celebration of their wedding anniversary. The professional explained that she could not remove it, but that she could use the functional device called -patient access - which is located in front of the mouth. And the professional reinforced that he would allow it, as the patient was no longer at risk of virus transmission, according to his clinical evolution, exams and length of stay!

**Photo 5** — Elmotherapy: bonds and emotions.



Source — Photos Taken by the Authors.

## REFERENCES

1. Cinesi GC et al. "Clinical consensus recommendations regarding non-invasive respiratory support in the adult patient with acute respiratory failure secondary to SARS-CoV-2 infection." *Intensive Care Medicine* vol. 44.7 (2020): 429-438.  
doi:10.1016/j.medin.2020.03.005
2. Holanda MA, Tomaz BS, Menezes DGA, Lino JA, Gomes GC. Desenvolvimento de um capacete para oferta de CPAP e oxigenoterapia com alto fluxo: ELMO 1.0. Sociedade Brasileira de Pneumologia e Tisiologia, *Jornal Brasileiro de Pneumologia*, 2021, Fortaleza,Ceará.