



Zero Cost Soft Cervical Collar.

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ABSTRACT :

An Orthosis is defined as “ An Externally applied device used to modify the structural and functional characteristics of the neuromuscular and skeletal systems. The vast majority of devices are pre-fabricated; which can be generally categorised as Soft, Semi-rigid and Hard.

Commercially available Soft cervical collar is available in medical stores / hospitals. However, it may not be available in rural areas / small hospitals.

We may need to use soft cervical collar as one of the approaches in management of Cervical Spondylosis and / or for relief / management of neck pains / neck sprains. In order to avoid such a situation in rural areas or small hospitals; a simple Zero Cost Soft Cervical Collar can be prepared and used in case of requirement in the management of Cervical Spondylosis or Neck sprains.

Running Title - Soft Cervical Collar.

Key Words – Cervical Collar, Cervical Spondylosis, Neck Sprains.

Introduction:

Definition – An Orthosis is defined as “ An Externally applied device used to modify the structural and functional characteristics of the neuromuscular and skeletal systems.

Cervical orthoses are indicated for two primary reasons :

1. Pain management and
2. Motion control of the cervical spine.

The vast majority of devices are pre-fabricated. Several designs offer different levels of stabilization for the cervical spine. Prefabricated cervical orthoses can be generally categorized as Soft, Semi-rigid and Hard.

The Soft cervical orthosis or collar also known as Foam collar, functions primarily as a kinesthetic reminder for the individual to reduce excessive motion. Semi-rigid and Hard cervical collar styles are available in a great variety of prefabricated styles. As a group, these orthoses reduce cervical motion in the sagittal plane¹.

The Need / The Problem:-

In our medical / surgical practice we have to deal with cases of Cervical Spondylosis. We may need to use soft cervical collar as one of the approaches in management of Cervical Spondylosis. Also, we may need to use Soft Cervical Collar for relief / management of neck pains / neck sprains.

Commercially available Soft cervical collar is available in medical stores / hospitals. However, it may not be available in rural areas or small hospitals. Also, Affordability is another problem faced by poor and Resource-poor population in developing countries like India. Hence the need for manufacturing/ preparing Zero Cost Appliances like our, Zero Cost Abdominal Binder², Zero Cost Hand-Cuff / Wrist Belt³, Zero Cost Scrotal support⁴.

The Solution :-

In order to avoid such a situation in rural areas or small hospitals; a simple Zero Cost Soft Cervical Collar can be prepared and used in case of requirement. These Zero Cost soft Cervical Collars can be kept prepared and easily available in the hospital. So that the required restriction of neck movements can be done without much delay. And if such systems are activated everywhere and if the concerned man-power is trained adequately, we can reduce the severity of cervical spodylosis and other neck illnesses.



Materials :-

- 1: Hard Card Board or like material.
 - Length approximately – 50 to 60 cm.
 - Height approximately – 10 to 12 cm.
- 2: Old discarded X-ray or CT scan films.
- 3 : Roller bandages or Cloth,
4. Used I.V. set tubings, or Strings / ribbon etc. (whichever is easily available in the hospital premises, can be used).

Procedure For Preparation:-

Take long X-ray / CT scan films, the length should be around 50 to 60 cm or more , so that it can encircle the neck to cause restriction of neck movements. This X-ray film is cut as per the design shown in the diagrams (Figures 1 and 2) . Two to three layers of the X-ray films may be required in order to give hardness / stiffness. The height should be adjusted such that it gives adequate restriction of neck movements without causing discomfort to the patient. These X-ray

films are then sandwiched between hard card board papers, applied on both the sides, in order to give support to the X-ray / CT scan films. This assembly is then wrapped with sponge and /or roller bandages so that its hardness / stiffness at pressure points is reduced. This collar provides restriction of neck movements without causing discomfort when it is applied.

Once this is ready, two to three holes are made at the ends of the Zero Cost Soft Cervical Collar and I.V. set tubings / strings are passed through these holes, so that these tubings can be tied after application of the collar. (Fig. 3).

The procedure of preparation is like suggestions or guidelines and the users or readers have the freedom to modify the designs as per their requirements and availability of resources. The hardness of this collar can be increased by increasing the layers of x-ray films. And softness of this collar can be increased by addition of layers of sponge or roller bandages.

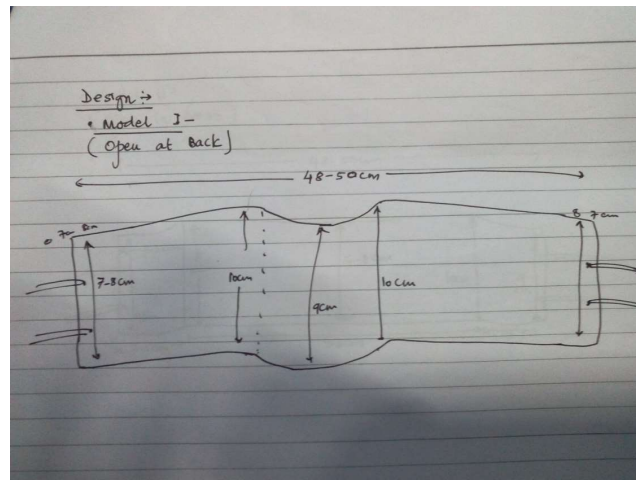


Fig. 1: Design no.1 of Zero Cost Soft Cervical Collar. (Open at Back).

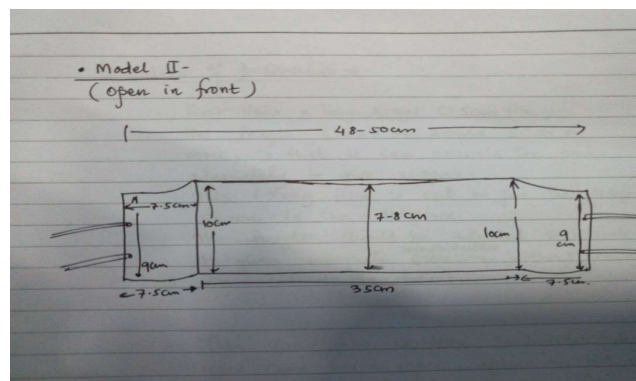


Fig. 2: Design no. 2 of Zero Cost Soft Cervical Collar. (Open in Front).



Fig. 3: Zero Cost Soft Cervical Collar - Prepared and ready for Use.



Fig. 4 : Clinical Photo (Demo) With Zero Cost Soft Cervical Collar in use.

Uses :-

- The Zero Cost Soft Cervical Collar can be used like any other Soft Cervical Collar, to cause restriction of movements of neck in cases of Cervical spondylosis. (Fig 4)
- Also, it may be used in management of neck pains or sprains.
- The Indications / Contra-indications / Technique for application of Zero Cost Soft Cervical Collar are the same as for any other soft cervical collar.

Discussion:-

It should be remembered that, this Zero Cost Soft Cervical Collar, is just an appliance similar to other Soft Cervical Collars.

It should be / may be used whenever required, similar to other Collars.

Though it is recommended to use standard Hard cervical collar for management of suspected neck injuries or cervical spine fractures, if it is not available in rural set up, use of Zero Cost Soft Cervical Collar may be considered as one of the options in the management of cervical spine injuries, at least temporarily.

Zero Cost Soft Cervical Collar should be used by the personnel, who has the Knowledge, Training, Experience and Wisdom in the management of cervical spondylosis, Head or neck injuries or neck pains, in such a way that the primary injury or pathology is Not further worsened.



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