

# Posey® Mitts and Post Stroke Therapy

## Evaluating the Use of Hand Mittens in Post Stroke Patients Who Do Not Tolerate Naso-Gastric Feeding



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Posey Peek-A-Boo® Mitts

*Study from the National Health Service in the United Kingdom*

### Introduction

Early naso-gastric and consistent (NG) feeding in acute stroke patients has been shown to improve patient morbidity and mortality. Acute stroke patients can be agitated and frequently pull out NG tubes. Recurrent NG tubes placements are associated with complications, such as trauma and chest infections. The use of restraints may improve nutrition and reduce complications of NG placements. This study evaluates the use of hand mittens in such patients.

### Methods

- Retrospective case control study
- 18 patients over a one year period (8 with, 10 without mittens)

*The following was noted:*

- Number of NG tubes inserted during the patient's admission
- Number of aspiration pneumonias treated with antibiotics
- Number of chest x-rays the patient received
- Amount of food received
- Weight loss / gain during admission
- Length of stay
- Results were analyzed using GraphPad
- Prism 4 software

### Discussion

The use of a physical restraint is not universally accepted in the UK. The decision to use mittens in patients who do not tolerate NG feeding should only be taken after discussions with the patient, or next of kin, and full agreement from the MDT that it would be in the patient's best interest.

Two patients did not tolerate the mittens. It is important that the skin integrity is checked daily and the mitten is applied properly.

### Conclusion

Temporary use of hand mittens in patients with acute stroke who are intolerant of NG feeding may reduce the number of NG tubes needed, as well as the number of aspiration pneumonias.

Our results suggest that adopting this practice leads to the improvement of nutrition in acute stroke patients.

<b>RESULTS</b>		
Median age was 81.5 in both groups 89% patients had Total Anterior Circulation Stroke		
	<b>Mitten</b>	<b>No Mitten</b>
Median number of NG tube	7 (Mann Whitney, U = 13)	10 (p< 0.05)
Median number of aspiration pneumonia	1 (U = 14.5)	2 (p< 0.05)
Median weight loss	0.7 kg (U = 4)	5.2 kg (p< 0.05)
Length of stay	40 days (U = 48.5)	48.5 days (p= 0.15)
No. of deaths	2 (x2 = 3.545)	7 (p< 0.05)

Study Source:

**Epsom and St. Helier  
University Hospitals**



NHS Trust United Kingdom

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## CIMT - New Hope for Stroke Patients

(Based on research from the University of Alabama at Birmingham)

An article on rnweb.com entitled, "New Hope for Stroke Patients,"<sup>1</sup> as well as articles in the New York Times and Los Angeles Times, discussed the benefits of a new type of neuro-rehabilitation therapy for stroke victims. Pioneered by Edward Taub, a psychology professor at the University of Alabama at Birmingham (UAB), the technique called Constraint-Induced Movement Therapy (CIMT)<sup>2</sup> encourages stroke patients to use their affected limb by constricting the unaffected limb. By using the affected limb, stroke patients can begin to regain and restore motor function.

Researchers studying strokes have found that the "brain can compensate for function lost as a result of a stroke. The plasticity of the brain-its ability to adapt and reorganize-and a natural rewiring of the neural connections make it possible for one part of the brain to change functions and take up the work of the injured part."<sup>2</sup> CIMT assists this component of the brain through the utilization of the affected limb, helping reorganize the neurons and return motor function to the limb. Not only do patient's learn to use the limb affected by a stroke, one study of CIMT showed that "after 12 days using the therapy, not only was use returning to the arm, but the mapped area of the brain had nearly doubled in size."<sup>2</sup> To prevent the use of the unaffected hand, patients wear a mitt or other restraining device for the majority of the day. This strategy forces them to use their affected limb, causing it to gradually regain function. In a study of 222 patients, it was shown that patients who underwent 'constraint induced' therapy within three to nine months of their strokes were more capable of performing an array of tasks than those who were not forced to use their affected



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Posey Secure Mitts

arm.<sup>3</sup> Forcing stroke patients to use an impaired arm by immobilizing their good one for two weeks produces significant long-term improvements in the arm function, boosting mobility and quality of life.<sup>4</sup>

The constrained patients in the study "scored higher on physical tests up to a year later when compared with stroke patients who underwent customary rehabilitation."<sup>3</sup>

According to Dr. Elias A. Zerhouni, director of the National Institutes of Health, the study is "likely to have a significant impact on clinical care for stroke survivors."<sup>4</sup>

*"Forcing stroke patients to use an impaired arm by immobilizing their good one... produces significant long-term improvements in the arm's functions, boosting mobility and quality of life"*

Posey offers a wide variety of Mitts to help with your patient's physical therapy needs. Posey Mitts have an ambidextrous design that fits either hand and are padded for comfort. The Mitts secure with a hook and loop strap and some models come with a mesh back to facilitate skin checks, while also allowing the skin to breathe. The use of Posey Mitts and Slings, in conjunction with CIMT can help your client build back the motor functions they have lost.

1 Ellen Barker, RN, MSN, CNRN, APN, "New Hope for stroke patients." RN February 2005, Vol. 68, No.2, www.rnweb.com

2 "New Hope for stroke patients." RN February 2005, Vol. 68, No.2, pg. 39

3 "Restraints Aid Stroke Victims, Study Finds." New York Times, 1 November, 2006.

4 Maugh II, Thomas H. "Stroke theory: Use the bad arm." Los Angeles Times, 1 November, 2006: A12.

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