

# CLINICAL CASE STUDY DEMONSTRATING THE EFFECTIVE USE OF A GLYCERINE-BASED HYDROGEL SHEET WITH AN EXTRAVASATION OF AN INTRAVENOUS MEDICATION

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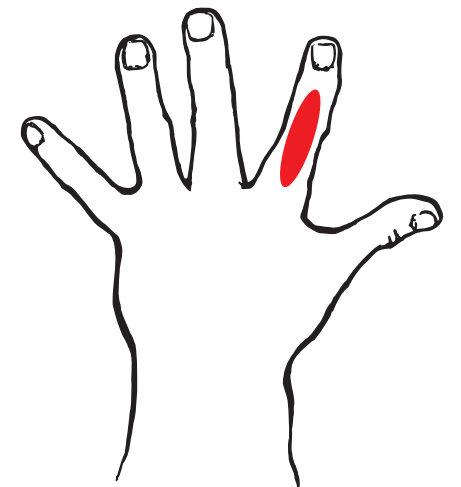
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## Objective:

After viewing this poster presentation, the participant will be able to;

- 1) Formulate an effective treatment for extravasation of infiltrated intravenous medications by utilizing a glycerine-based hydrogel\*.
- 2) Describe the benefits of utilizing a glycerine hydrogel sheet.



## Problem:

A 66 year old female presented with a severely swollen right hand post extravasation of an infiltrated intravenous medication. Tissue was tight and shiny with two small blisters. Movement was limited and painful.

## Rational:

This glycerine based hydrogel\* was selected to minimize damage by extracting the medication from the tissue. This product is soothing and cooling, providing patient comfort and easy to remove to prevent tissue breakdown.

## Methodology:

Prior to wound consult treatment was application of a heating pad. This treatment was discontinued and a glycerine hydrogel sheet\* was applied.

## Conclusion:

The glycerine-based gel sheet\* appeared to stop the extravasation, evidenced by decreased swelling, absorption of the blisters, and providing comfortable movement of the hand and fingers. This treatment prevented severe tissue damage and necrosis that has been known to occur with infiltration of this medication.

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## Case Study #1

### \*Medication Safety Alert: Promethazine\*

It has been determined that severe tissue damage can occur regardless of the route of parenteral administration of Phenergan (promethazine), although intravenous and inadvertent intra-arterial or subcutaneous administration results in more significant complications, including: burning, erythema, pain, swelling, severe spasm of vessels, thrombophlebitis, venous thrombosis, phlebitis, nerve damage, paralysis, abscess, tissue necrosis and gangrene. Sometimes surgical intervention has been required, including fasciotomy, skin graft, and even amputation. Reports of patient harm have been submitted to drug reporting agencies. Reports of severe tissue damage have occurred. The true extent of this problem may be unknown.

### Intro photo:

(black finger) - This photo depicts worst case outcome of IV Extravasation

A 66 year old female presented with a severely swollen right hand post extravasation of an infiltrated intravenous medication. Tissue was tight and shiny with two small blisters. Movement was limited and painful.

### Photo 2: 6/25/09

The patient was admitted to the hospital with severe nausea and vomiting. Physician ordered Phenergan (Promethazine) IV. Within a couple of hours, it was noted that the medication had infiltrated causing extravasation into the surrounding tissue of the hand. Immediate swelling of the fingers and hand were noted. Wound specialist instructed primary nurse to stop the heating pad and apply a glycerine-based hydrogel\* immediately to keep the medication from spreading into the tissues further. Nurse applied a 6"x8" dressing and was able to cut the dressing to wrap each finger and secured with tape. The larger dressing simplified the protocol/application.

### Photo 3: 7/2/09

Patient was dismissed from the hospital and 3 days later was seen in wound clinic. Right hand presented with



Photo 1



Photo 2



Photo 3



Photo 4

greatly reduced edema with light purple discoloration of the tissues. Patient complained of pain unless the glycerine-based hydrogel sheet\* was maintained on hand and fingers at all times. Patient was able to move fingers and verbalized comfort when this treatment was utilized. Protocol remained same, one large gel sheet cut and secured with tape.

### Photo 4: 7/10/09

8 days later, patient returned to the wound clinic. Right hand-post extravasation healing well. Right thumb was slightly edematous due to patient not placing the glycerine sheet over the thumb. Hand had full function, range of motion with no mottling, no pain. Patient was able to care for invalid daughter with full function of hand.

No other pain medication was used.

## References

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- DiCosmo, Frank (PhD), Advances in Skin & Wound Care Volume 22, #1 January 2009 pg 13-16 "the Edge Effect: The role of Collagen in Wound Healing
- Pfliger-Fore, Jane (MD, CWS, FAPWCA) Advances in Skin & Wound Care Volume 17, #9 November/December 2004 pg 480-485 "the Epidermal Skin Barrier: Implication for the Wound Care Practitioner, Part II

## Products Used

\* Elasto-Gel™ Wound Dressing