

PR39: Escharotomy

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Applicable To

RESTRICTED TO PHYSICIAN SUPPORT ONLY

Introduction

This is limited to chest escharotomies.

Circumferential deep partial-thickness and full thickness burns involving the chest wall can lead to respiratory collapse. This is the case when the dermis becomes stiff and unyielding, leading to the restriction of wall motion during respiration. This burnt, stiff, and unyielding tissue is referred to as an eschar. A decompressive escharotomy is an extremely rare but potentially life-saving procedure to preserve respiration. Clinicians need to be mindful this is not a fasciotomy. The incision is only through the non-viable eschar allowing the cutaneous envelope to become more compliant.

Indications

- In consultation with physician support (ETP/EPOS)
- Respiratory decompensation secondary to the restrictive lung wall compliance resulting from a deep circumferential or near circumferential burn involving the chest
- Inability to ventilate due to high pressures related to a restrictive chest wall

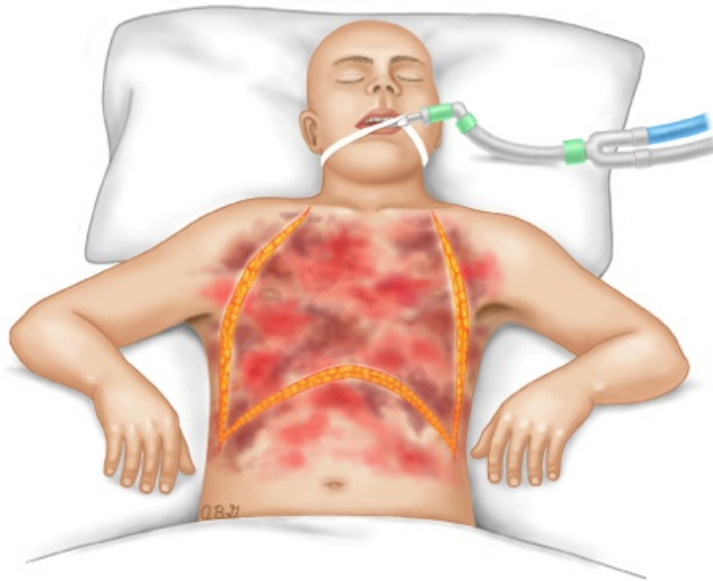
Contraindications

- No contraindications with circumferential or near-circumferential deep partial-thickness or greater burns to the torso with impending or established respiratory collapse

Caution: This is a rare but potentially life-saving event; consult with ETP/EPOS.

Procedure

1. The patient is placed in a supine position while maintaining ventilatory support efforts.
2. Time permitting – cleanse the area of any excess debris or loose clothing.
3. Utilizing a scalpel cut down through the eschar to the level of the subcutaneous fat. This depth is approximately 1 cm. An immediate release in tissue pressure is experienced often as a discernible popping sensation.
4. Using sterile technique, incise the chest wall from the clavicle to the costal margin in the anterior axillary line bilaterally; avoid breast tissue in women.
5. Once the escharotomy is performed, monitor for improvement in ventilation as evidenced by improved compliance of ventilations using a mechanical ventilator or bag/valve device, visible chest rise, and improvements in oxygen saturation.
6. If improved compliance is not seen after the initial incision, revise the escharotomy in an attempt to improve ventilatory support. Consider joining these vertical incisions with two transverse incisions. These transverse incisions connect the previous vertical incisions made above. The first is at the clavicles inferiorly and the second is superior to the abdomen at the level of the costal margin. (Sometimes referred as a Roman breastplate approach.)
7. Once completed, cover the torso/chest wall area with a sterile burn sheet.
8. Maintain continuous monitoring of the patient's respiratory compliance and oxygenation.



Notes

- Complications include hemorrhage, increased fluid loss, subcutaneous infection, and neuromuscular injury.

References

1. Streitz MJ. How to do burn escharotomy. 2020. [\[Link\]](#)
2. Rice PL. Orgill DP. Emergency care of moderate and severe thermal burns in adults. 2019. [\[Link\]](#)
3. Phelan HA. Bernal E. Treatment of deep burns. 2019. [\[Link\]](#)

