

About Multifunction Defibrillation Electrode Pads

Introduction

The safety and comfort of your patient is always a primary concern. When using Philips Multifunction Defibrillation Electrode Pads, the following actions are recommended for improving the electrode-to-skin interface.

NOTE: This document is not intended to replace the directions for use as indicated on product packaging or your institution's protocols.

Skin Preparation

The following steps will improve the electrode-to-skin interface:

1. Remove excessive hair with a clipper. If shaving is necessary, extra care should be taken to avoid cutting or scraping the surface. If the electrode is placed where the skin has been irritated, there is a higher risk for increased irritation, resulting in greater overall skin damage.
2. If possible, before applying the electrode, clean the surface of the skin with mild soap and water. Be sure to dry the skin thoroughly.
3. Apply the electrodes one at a time by firmly pressing the electrode from top to bottom in one smooth motion. Be sure not to trap air underneath the electrode. Apply gentle pressure over the entire surface of the gel and adhesive ring to insure adhesion.

Figure 1 Philips Multifunction Defibrillation Electrode Pads



Electrode Pad Removal

When removing the electrode, a slow pull along the edge of the foam adhesive is the most effective method. The electrode should be pulled back against itself, rather than perpendicular.

To reduce stretching of the skin during removal, support the skin along the edge of the electrode with your free hand, so that the skin does not stretch while the electrode is being removed.

Skin Reactions

Many factors influence skin integrity. Skin properties are unique and vary from patient to patient. The condition of the skin reflects the patient's physiological state. It will vary in hydration, temperature, and degree of perfusion. Poor or impaired circulation, poor blood pressure, sensitivity to medications, as well as external irritants such as the sun or pad adhesives, all combine to contribute to the reaction.

The most common expected reactions are as follows:

1. Skin reddening

This is a common occurrence around the circumference of the electrode. The adhesive on the pad may cause irritation. The longer the adhesive remains on the skin, the more likely the possibility of the reaction. This reaction can be minimized by limiting the skin's exposure to the adhesive and by proper electrode removal.

2. Erythema

This reaction may occur from the delivery of energy from the defibrillator. However, it is more common with cardioversion than with cardiac arrest. During cardioversion, a patient's skin is likely to be well perfused due to good blood pressure and flow through the capillaries. Erythema or skin inflammation may occur for any of the following reasons:

- ▶ Allergic skin reaction to the electrode components.
- ▶ A histamine reaction to current flowing through the skin.
- ▶ Improper electrode removal.
- ▶ Current arcing due to improper skin preparation or improper application of the electrode.
- ▶ Excessive body hair.
- ▶ Transdermal medications present on the skin (e.g. nitro paste).
- ▶ Improper electrode placement (bony protuberances should be avoided if possible).
- ▶ Medications (e.g. anti-coagulant drugs).
- ▶ Prior skin sensitization or pre-existing chronic skin inflammation.

3. Excessive Erythema

This condition is also considered a normal, expected outcome. Blistering is uncommon but can occur with especially sensitive patients and after multiple energy discharges to the same skin locations.

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