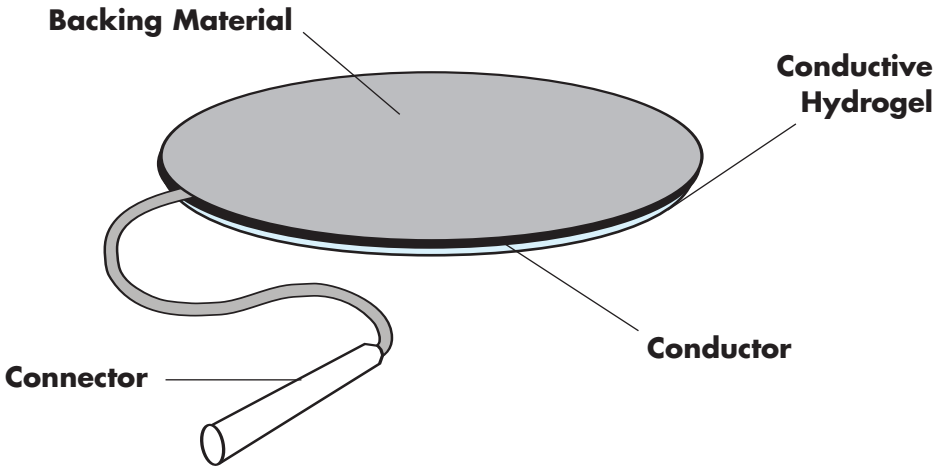
tyco Healthcare

Construction of Electrodes



Self-adhering stimulating electrodes are manufactured with one of several types of hydrogel, a conductor, a connector, and a backing material (with the exception of carbon rubber electrodes). Many different construction materials, electrode designs, and shapes address a variety of placement sites and uses.

Conductive Hydrogels

Selection of electrodes is usually determined by the type of gel properties that are required. Placement site, climate, skin type and skin condition, and type of stimulation are all important factors to consider. Gels are classified as aggressive, moderate, or low tac in adhesion. Specialty gels are offered for sensitive skin situations as well as high heat/humidity environments.

Conductors

Electrically conductive materials carry the electrical pulse from the connection through the hydrogel and to the treatment site. Conductive materials include carbon rubber, silver printed cloth, carbon film, silver printed carbon film, aluminum film, and tin.

Connector Styles

Careful consideration should be given to intended use, placement site, convenience, and patient comfort. Prewired pin connections (pigtails) are the most popular choice as they are easy to use, flexible, and offer a low profile. Straight pin connections hold securely and offer low profile, but are not well suited for treatment sites where flexibility is needed. Snap connections are easily managed for patients with limited dexterity, but may be uncomfortable for a placement site that will sustain pressure. Tab connectors are used with a clip and are quick and easy to apply and remove. Placement site pressure is reduced with the tab style of connector or adaptor.

Backing Materials

Breathable soft and flexible fabrics, durable vinyl, moisture resistant foam, and conformable tricot are popular backing materials and may be an important consideration when choosing electrodes.

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