10. Heat and Cold Therapy

Heat and cold are applied to a specific part or all of a patient's body to bring about a local or systemic change in body temperature for various therapeutic purposes. Nurses use heat and cold as nursing interventions in both hospital and community-based settings.

10.1 Factors Affecting Physiologic Responses to Heat and Cold:

A- Duration of application.

B- Degree of heat and cold applied.

C- Patient's age and physical condition.

D- Amount of body surface covered by the application.

10.2 Effects of Applying Heat

A- Dilates peripheral blood vessels.

B- Increases tissue metabolism.

C- Reduces blood viscosity.

D- Increases capillary permeability.

E- Reduces muscle tension.

F- Helps relieve pain.

10.3 Effects of Applying Cold

A- Constricts peripheral blood vessels.

B- Reduces muscle spasms and promotes comfort.

C- Reduces blood flow to tissues.

D- Decreases the local release of pain-producing substances such as histamine, serotonin, and bradykinin (decrease inflammation and edema).

10.4 Physiologic Considerations

The ***Rebound phenomenon*** is important to the therapeutic value of heat and cold and to the safety of patients receiving such therapy.

Heat produces maximum vasodilation in 20 to 30 minutes; if heat is continued beyond that time, tissue congestion and vasoconstriction occurs (for unknown reasons).

With cold, maximum vasoconstriction occurs when the skin reaches 15 C (60 F); then vasodilation begins.

10.5 Appling Heat and Cold

Dry Heat	Moist Heat	Dry Cold	Moist Cold
Hot Water Bags	Warm Moist Compresses	Ice Bags	cold compresses
Electric Heating Pads	Sitz Baths	Cold Packs	