Chapter 5

Emergency Measures and Care

5.1. Attitude to observe in case of electrical accidents

In the event of an electrical accident, it is crucial to adopt a cautious and informed attitude to ensure safety and minimize harm. Here are some key steps and attitudes to observe:

5.1.1. Attitude in Case of Electrical Accidents:

1. **Stay Calm**:
    - Panic can lead to poor decision-making. Remaining calm helps you assess the situation more effectively.
2. **Ensure Safety First**:
    - Do not touch anyone who is in contact with live electricity, as this could cause shock.
    - Disconnect power sources if possible, without risking your own safety.
3. **Call for Help**:
    - Alert others nearby about the situation.
    - Call emergency services immediately if necessary.

4. **Provide Basic Care (if trained)**:
    - If someone has been shocked or injured, provide basic first aid such as CPR if trained.
5. **Document Incidents**:
    - After ensuring everyone's safety, document what happened for future reference and potential investigations.
6. **Follow Emergency Procedures**:
    - Have a comprehensive emergency response plan in place that includes procedures for electrical accidents.

5.1.2. Key Principles

- Always prioritize caution when dealing with electricity.
- Ensure proper training on handling electrical equipment and responding to emergencies.
- Regularly inspect equipment to prevent accidents from occurring in the first place

5.2. First aid

In the event of an electrical accident, providing appropriate first aid is crucial for minimizing harm and ensuring the best possible outcome. Here are key steps to follow:

5.2.1. First Aid Procedure

1. **Ensure Safety**:

- Do not touch anyone who is still in contact with a live electrical source, as this could cause shock to you as well.
- Stand on a dry insulating material like rubber matting or newspapers if necessary.

2. **Disconnect Power Source**:
   - If safe to do so, turn off the power at the mains or remove plugs from sockets.
   - Use non-conductive objects (e.g., wooden broom handle) if direct disconnection isn't possible.
3. **Check Victim's Condition**:
   - Assess whether the person is conscious and breathing normally.
   - Check for signs of burns or other injuries.
4. **Call Emergency Services**:
   - Immediately call emergency services (e.g., 911 in the U.S.) if severe symptoms are present such as difficulty breathing, cardiac issues, or loss of consciousness.
5. **Provide Basic Care**:
   - If trained, begin CPR if there's no pulse or breathing.
   - Cover any burns with sterile gauze bandages; avoid using loose fibers like blankets.
6. **Seek Medical Attention Post-Incident**:
   - Even after minor shocks without visible injury, medical evaluation is recommended due to potential internal damage

5.3. Assisted ventilation (mouth-to-mouth and Sylvester methods)

The query seems to refer to assisted ventilation methods, specifically mentioning mouth-to-mouth and Sylvester methods. However, these terms are not commonly used in modern medical literature regarding mechanical ventilation or first aid techniques for respiratory support.

5.3.1. Traditional Assisted Ventilation Techniques

1. **Mouth-to-Mouth Resuscitation**
   - This is a basic life support technique where a person breathes directly into another's mouth to provide oxygen when they are unable to breathe on their own.

- It is part of CPR (Cardiopulmonary Resuscitation) but not typically referred to as "assisted ventilation" in the context of mechanical ventilators.

2. **Sylvester Method**
   - There isn't widespread recognition of this method in contemporary medical literature related to assisted ventilation or first aid.
   - It might be an outdated term or technique that has been replaced by more effective and safer methods.

5.3.2. Modern Assisted Ventilation Modes

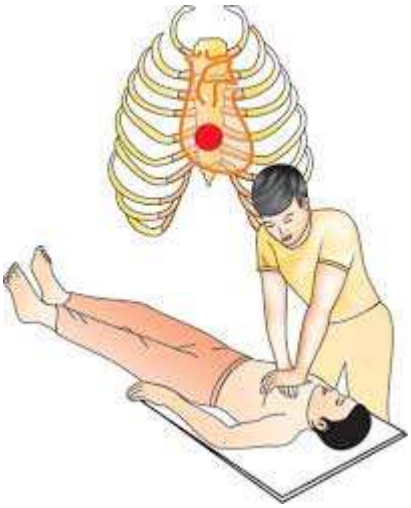
- Modern assisted ventilation involves using mechanical ventilators with various modes like Pressure Support Ventilation (PSV), Proportional Assist Ventilation (PAV), and Neurally Adjusted Ventilatory Assist (NAVA). These modes help patients breathe by providing support during spontaneous breathing efforts

5.4. External cardiac massage

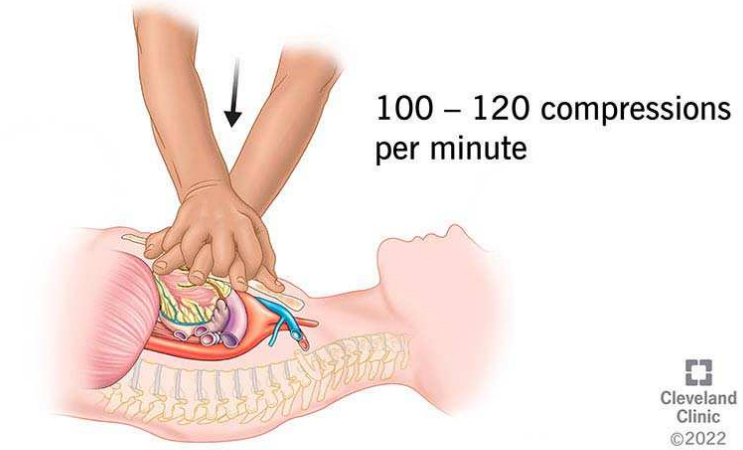
External cardiac massage, commonly known as chest compressions, is a critical technique used during cardiopulmonary resuscitation (CPR) to manually stimulate the heart and maintain blood circulation when it has stopped beating. Here's an overview of this method:

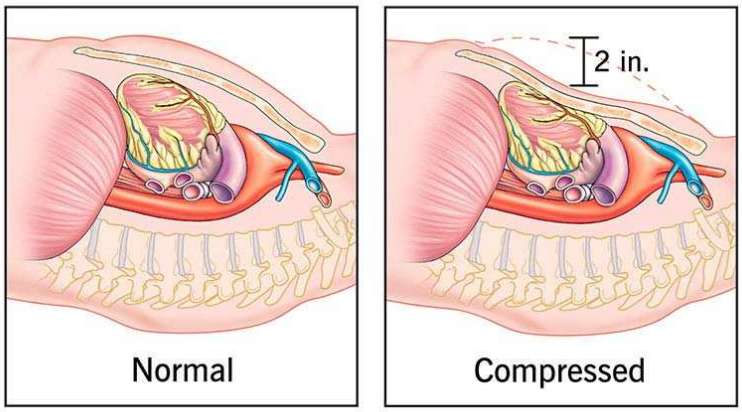
5.4.1. Technique

1. **Positioning**: The person performing CPR should kneel beside the victim on a firm surface.
2. **Hand Placement**: Place one hand on top of the other with fingers interlaced and position them at the center of the chest, just above the lower half of the sternum.
3. **Compression Depth and Rate**: Compress down by 2 to 2.5 inches (5 to 6 cm) at a rate of 100 to 120 compressions per minute.
4. **Ventilation Ratio**: Typically performed in a ratio of 30:2 with rescue breaths for trained individuals.



Cardiopulmonary resuscitation (CPR)





5.4.2. Importance

- External cardiac massage helps maintain blood flow and oxygen delivery to vital organs until medical help arrives.
- It is less invasive compared to internal cardiac massage (open-chest massage), which requires surgical intervention.

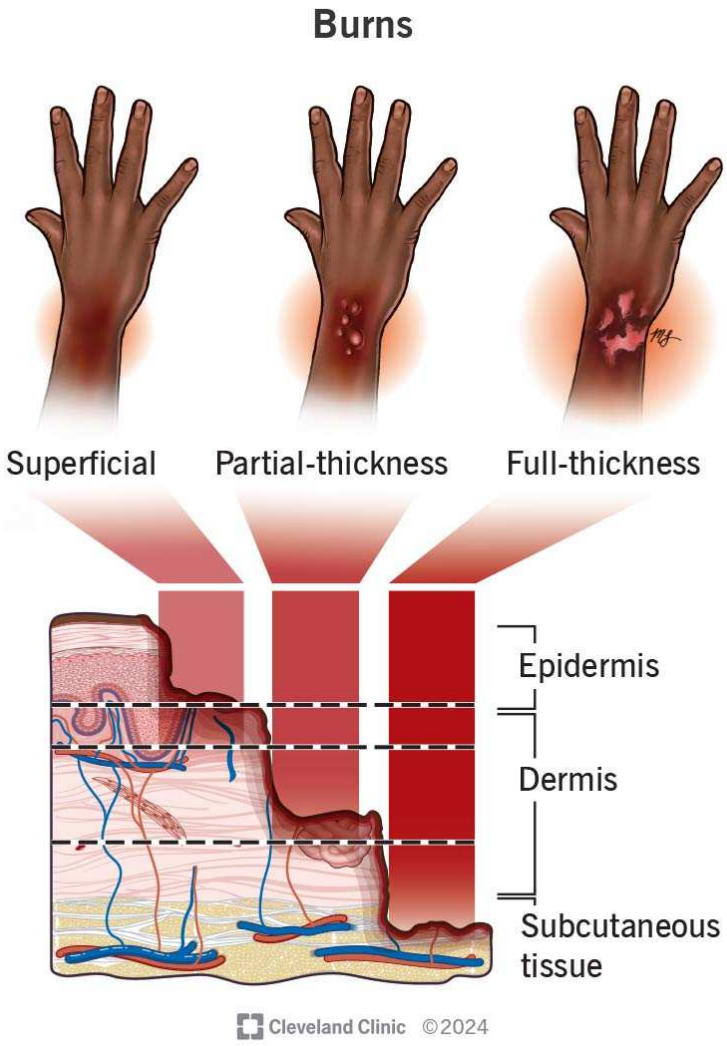
5.4.3. Training

- Training programs emphasize proper technique for effective CPR performance by both laypersons and healthcare professionals.

For detailed guidelines or training resources, consulting reputable sources like American Heart Association or local health organizations is recommended.

5.5. Burn care

When dealing with electrical burns, it is crucial to provide immediate and proper care to minimize damage and prevent complications. Here's a summary of the key steps for burn care in electrical security:



5.5.1. First Aid Steps

1. **Ensure Safety**:
    - Do not touch anyone still in contact with an electrical source.
    - Use non-conductive materials (e.g., dry wooden stick) to separate them from the source if necessary.
2. **Cool the Burn**:
    - Hold any burnt area under cool running water for 20 minutes. Avoid using cold water.

3. **Remove Jewelry/Clothing**:
    - Gently remove jewelry or tight clothing near burnt areas unless stuck to prevent constriction due to swelling.
4. **Cover the Burn**:
    - Use a sterile gauze bandage or clean cloth to cover burns; avoid loose fibers like blankets or towels as they can stick.
5. **Check Breathing and Circulation**:
    - Assess airway, breathing, and circulation (ABCs). Perform CPR if necessary.
6. **Seek Medical Attention Promptly**:
    - Even minor shocks should be evaluated by a healthcare professional due to potential internal damage not visible on the skin.

By following these steps, you can effectively manage electrical burns until medical help arrives. For specific guidelines applicable in your region (e.g., local emergency numbers), consult local authorities or relevant documentation