

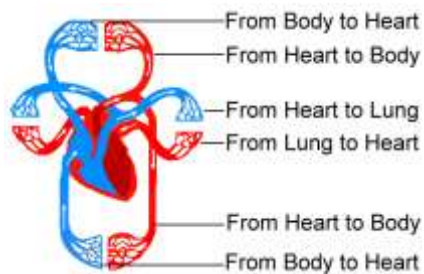
Wounds & Bleeding

Part 1

Objectives & Learning Outcomes

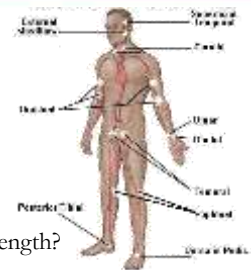
- Anatomy & Physiology of the Circulatory System
- Record Pulse
- Recognise Wounds and Control Bleeding
- Manage Severe Bleeding and Shock
- You will be able to:
 - Recognise how the body reacts to bleeding
 - Manage and Control Bleeding
 - Recognise signs and symptoms of severe blood loss

The Heart



Pulse

- Sites:
 - Carotid
 - Brachial
 - Femoral
- Rates: 60-80/min
- What is Rhythm and Strength?
- Recording pulse rate
- What causes pulse to change?



Wounds and Bleeding

- Bleeding – blood escaped from Circulatory System
 - Arterial Bleeding
 - Venous Bleeding
 - Capillary Bleeding



Types of Wounds



Contusion



Abrasion

Types of Wounds



Laceration

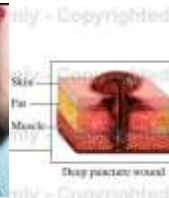


Incision

Type of Wounds



Puncture



Gun Shot

Managing a Wound

- Prevention of cross infection
- Body's reaction - vasoconstriction
- Control Bleeding
 - Direct Pressure
 - Elevate injured part
 - Indirect Pressure



Minor Bleeding

- Infection is main concern
- Clean the wound with running water
- Dressing with clean material



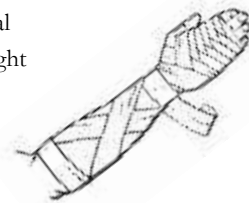
Severe Bleeding

- Main concern is to stop bleeding
- Control bleeding
- Apply dressing and secure with bandage



Roller Bandage

- Simple Spiral
- Reverse Spiral
- Figure of Eight



Shock (*Hypovolemic*)

- Inadequate perfusion
- Signs and Symptoms
 - Confusion
 - Cold and Clammy Skin
 - Pale
 - Dizziness
 - Weak and Rapid Pulse
 - Shortness of Breath, Gasping for Air



Internal Bleeding

- Signs and Symptoms of Shock
- Source of bleeding
 - Vomit
 - Feces
 - Ears
 - Nose
 - Vagina

Question ?

▶ Wounds & Bleeding 2

Wounds & Bleeding II

- *WOUNDS WITH FOREIGN BODIES*
- *SPECIAL BANDAGE TECHNIQUES*

Learning Outcomes

- You will be able to:
 - Handle wounds with embaded foreign bodies
 - Apply bandaging techniques to control bleeding
 - Apply simple bandages before arrival of ambulance

Wound with Foreign Bodies



Wound with Foreign Bodies

- Immobilise the injured part
- Do not attempt to remove the foreign body

Wound Management

- Control bleeding - apply pressure to the wound
- Cover with gauze
- Secure with bandage



Simple Bandaging

- Scalp
- Hand
- Palm / Foot
- Crescent Pad



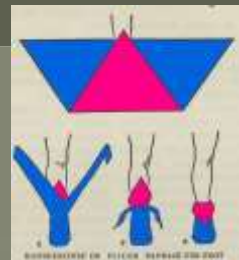
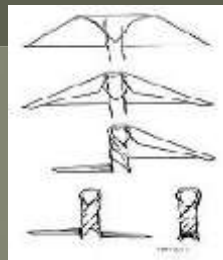
Scalp Bandage



Hand Injuries



Palm / Foot Bandage



Crescent Pad



Questions ?



ST. JOHN AMBULANCE OF MALAYSIA

1st IN FIRST AID TRAINING

Wounds & Bleeding & Dressing Procedures

Reference: SJA First Aid Manual 9th Edition Revised



ST. JOHN AMBULANCE OF MALAYSIA

1st IN FIRST AID TRAINING

Dressing & Bandage



• Dressing



• Bandages



ST. JOHN AMBULANCE OF MALAYSIA

1st IN FIRST AID TRAINING

Main Function of Dressings

- Control bleeding
- Protect from further injuries
- Protect wound and prevent infection



- Promote healing



ST. JOHN AMBULANCE OF MALAYSIA

1st IN FIRST AID TRAINING

Type of Dressing

1. Sterile Dressing
2. Gauze Dressing
3. Adhesive Dressing
4. Improvised Dressing



Type of Dressing

1. Sterile Dressing

- ❖ Various sizes
- ❖ With protective wrappings
- ❖ No longer sterile if protective wrapping is broken



Type of Dressing

2. Gauze Dressing

- ❖ Various sizes
- ❖ May use adhesive strapping or roller bandage to hold the dressing



Type of Dressing

3. Adhesive Dressing

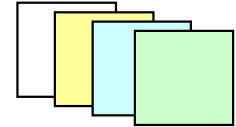
- ❖ Various sizes
- ❖ For small wounds
- ❖ Able to stick



Type of Dressing

4. Improvised Dressing

- ❖ Any cloths that are not fluffy or sticky
- ❖ Clean and soft
- ❖ Light colour (White / Yellow / Blue / Green)
- ❖ Able to absorb blood (cotton)
- ❖ **Risk of infection is HIGH!!!**



When do you need to apply Dressing?



6 Types of Wounds



Abrasion / Graze



Incised



Contusion / Bruises



Punctured



Laceration



Gunshot



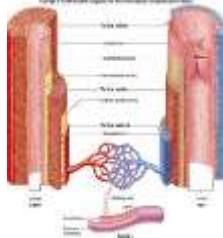
3 Types of Bleedings

Artery:

- Thick Layer
- Elastic structure
- Carries Oxygenized Blood
- High Pressure

Bleeding Pattern:

- Fresh Red Colour
- Shoot out with heart rhythm



Vein:

- Less thick compare with Artery
- Carries Deoxygenized Blood
- Low Pressure and flow 1 direction
- Has valve to prevent blood to reserve flow

Bleeding Pattern

- Dark Red Colour
- Flow out like water tap.

Capillary:

- Smallest Blood vessels
- Very thin wall (1 cell thick)
- Places where O₂ and CO₂ gasses exchange

Bleeding Pattern

- Very little bleeding



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Rules of Applying Dressings

- **Wear gloves!!!**

- Dressing **size must bigger than the wound.**
- Place dressing **directly on the wound.**



- If blood seeps through, apply another dressing on top of it.
- If blood seeps through the second dressing, remove both and replace with new one.



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3 Steps to STOP Bleeding

1. DIRECT PRESSURE



2. Elevation



If bleeding still continues

3. INDIRECT PRESSURE



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Dressing a Small Wound



1. Wash the wound with running water



2. Dry up the wound area



3. Elevate the wound higher than the heart level

4. Cover wound with clean dressing to stop bleeding and to prevent cross infection of bacteria



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Dressing Large Wound with Severe Bleeding

1. Remove or cut cloth to expose the wound



2. Cover wound with clean / sterile dressing and apply **DIRECT PRESSURE**



3. **ELEVATE** the injured part higher than the heart level

4. Lie the casualty down and raise the leg up to prevent shock.



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Dressing Large Wound with Severe Bleeding

5. Secure the dressing with a firm bandage, but **not too tight**

6. **Apply another layer** of dressing on top if the blood seeps out.

7. If it **seeps out again**, remove the top layer and apply a new one.

8. Monitor vital sign and send to hospital immediately. **Check blood circulation every 10 minutes**



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Wound with Removal Foreign Objects

1. Carefully **remove** the foreign object
2. Wash the wound area with **water + antiseptic solution**
3. Apply dressing with **direct pressure**
4. **Elevate** the injured part higher than the heart level
5. Seek for **medical advice** if needed.



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Wound with Un-removal Foreign Objects

1. **Press firmly** on **both side of the skin** with embedded object to **create direct pressure**.
2. **Apply crescent pad to clamp & secure** the object. If possible, higher than the object.
3. **Hold the padding** in place & **roll** the roller bandage until the bandaging is complete
4. **Send to hospital immediately**



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REMEMBER! After Treatment...

Dispose / Throw



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Before & After Treatment...

- Wash your hand thoroughly!



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Any
Question?



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THANK
YOU



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SIMPLE BANDAGING

Reference: SJA First Aid Manual 9th Edition Revised

Part 1: SIMPLE BANDAGING



Function of Bandages

- Maintain direct pressure on dressing
- Hold dressing & splints
- Provide support to injured limbs or joint
- Minimise movement.



Type of Bandages

• A. Roller Bandages

(secure a dressing and support injured part)



- Gauze Type**
- To hold dressing
 - Good blood absorption



- Elastic Type**
- Gives compression on muscle
 - minimise joints movement



- Crepe Type**
- combination of both Gauze & Elastic
 - Good for all purpose



Type of Bandages

• B. Tubular bandages

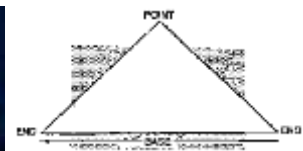
(Pre-shaped bandages to suites for fingers/toes, limbs and joints)



Type of Bandages

• C. Triangular Bandages

(as sling, secure dressing and immobilize limbs. Can be used as large dressing as well)



Type of Bandages

• C. Improvised Bandages

(any clean cloth that can be use as bandages. Light colour will be preferable)



General rules of applying bandages

- Reassure and explain your action
- Ensure **comfort** of your casualty
- Support the injured part
- Apply bandage from the front of casualty



General rules of applying bandages

- Pass bandages through body's natural hollows
- Apply bandages **firmly but not too tight** to cut off circulation
- Use **reef knots**
- Always check the circulation (every 10 min)
Signs / symptoms of poor circulation:
 - **Poor capillary refill**
 - **Numbness & Tingling sensation / Pain / swollen**
 - **Pale / Cyanosis**



SKILLS SECTION



Folding a Bandage



← Triangular Bandage



← Half fold



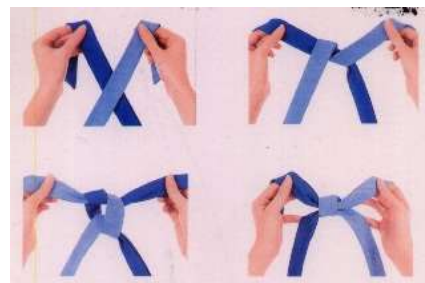
← Broad Bandage



← Narrow Bandage



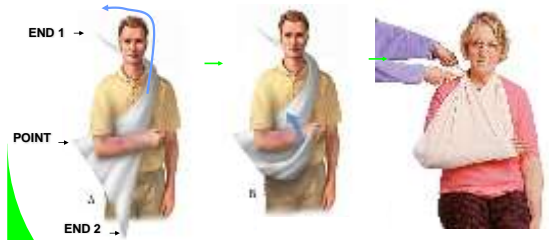
REEF KNOT



UNTYING REEF KNOTS



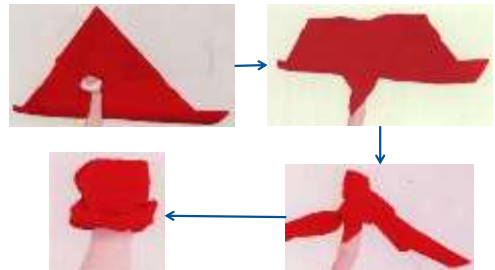
Arm Sling



Elevation Sling



Palm bandage - Transverse cut wound



Foot bandage



Same method with Palm Bandage



THANK YOU



PART 2: FRACTURE BANDAGING

Reference: SJA First Aid Manual 9th Edition Revised



FRACTURES

- A break or crack on a bone



CAUSES OF FRACTURE

- **Direct Force** (Direct Hit)
- **Indirect Force** (Force transferred from direct force)



SIGNS & SYMPTOMS OF FRACTURE

- Deformity, swelling and bruise;
- Pain and unable to move;
- Signs of shock
- Possibly of open wound
- Shorten or bent



TYPE OF FRACTURES

OPEN FRACTURE

CLOSED FRACTURE



SKILLS
SECTION



Lower Jaw Injury



SIGNS AND SYMPTOMS:

- Difficult to speak, swallow and move the jaw;
- Pain and nausea



Management of Lower Jaw Injury



1. Help casualty to sit, lean forward, open and clear airway.



2. Support the jaw firmly with soft padding.
3. Send to hospital immediately.



Rib Injury



SIGNS AND SYMPTOMS:

- Pain on the chest;
- Sound of air "sucked" into chest cavity;
- Signs of internal bleeding.



Management of Rib Injury



Treatments:

1. Help the casualty to sit down;
2. Support the arm on the injured side with elevation sling;
3. Send to hospital immediately;
4. Monitor vital signs.



Management of Penetrating Chest Wound



Put the casualty in a comfortable position



Apply 3 way seal using clean plastic sheet.



Apply elevation sling



Collar Bone Injury



SIGNS AND SYMPTOMS:

- Head and shoulder incline to the injured side.
- Pain & Swelling at shoulder area



Shoulder/ Upper Arm/ Forearm and Wrist Injuries



SIGNS AND SYMPTOMS:

- Pain, increased by movement;
- Swelling, bruising, tenderness and deformity.



Management of Collar Bone/ Shoulder/ Upper Arm/ Forearm/ Wrist Injuries



Use the uninjured arm to support the injured arm

Reef knot

Secure the arm with a broad-fold bandage around the chest



Management for Arm that Cannot Bend (Elbow Injury)



Secure the arm with board-fold bandage;

Soft Padding as support



Hip and Thigh (Femur) Injuries



SIGNS AND SYMPTOMS:

- Shortening of the leg
- Pain & swelling
- Deformity
- May induce severe internal/external bleeding
- Sign of shock



Management of Hip and Thigh Injuries



Straighten the leg with a little traction.

Fracture Area



Reef Knot



Lower Leg (Tibia/ Fibula) Injury



SIGNS AND SYMPTOMS:

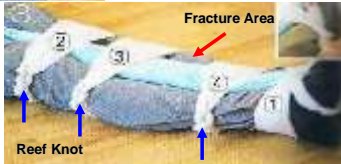
- May have shortening of the leg
- Pain & swelling
- Deformity
- May have severe internal/external bleeding
- Sign of shock



Management of Lower Limb Fracture



Straighten the leg with a little traction.



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THANK
YOU



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Presentation Point

Injuries to Soft Tissues

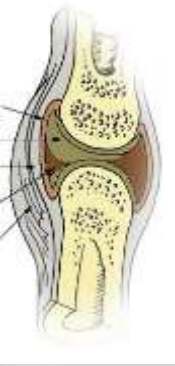
Learning Outcomes

- You will be able to:
 - Recognise and Manage Cramp
 - Differentiate and manage Sprain and Strain
 - Perform R.I.C.E. treatment

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Soft Tissues

- Joints
 - Hinge Joint
 - Ball and Socket Joint
 - Slight Movement Joint
 - Ligaments
 - Tendons



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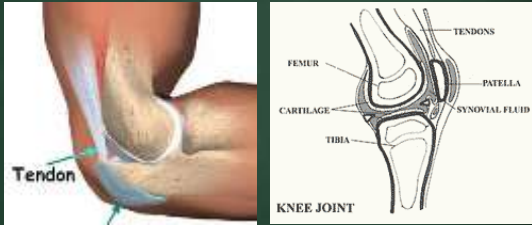
Soft Tissues

- Muscles
 - Voluntary
 - Involuntary



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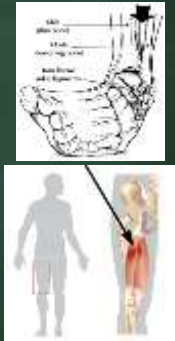
How Joints Function



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Sprain & Strain

- Sprain - ligament injury
- Strain - muscle tear
- Cause: acute overstretch
- Signs & Symptoms:
 - Pain
 - Stiffness
 - Swelling
- Management: R.I.C.E.



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Cramp

- Acute involuntary muscle pull
- Caused by cold or overexertion
- Usually is lack of water and salt
- Management:
 - Stretching
 - Give water (with salt / electrolytes)
 - R.I.C.E.



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RICE

- Rest
 - Stop all activities
- Ice
 - Apply ice bag until numbness
- Compression
 - To reduce swelling
- Elevation
 - To reduce blood flow to injured part



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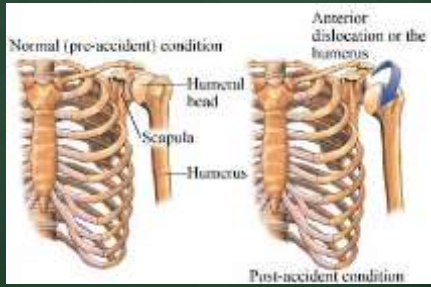
Dislocation

- Displacement of a bone from its location at a joint
- Signs & Symptoms are similar to fractures
- Manage as fracture



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Shoulder Dislocation



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Question ?

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