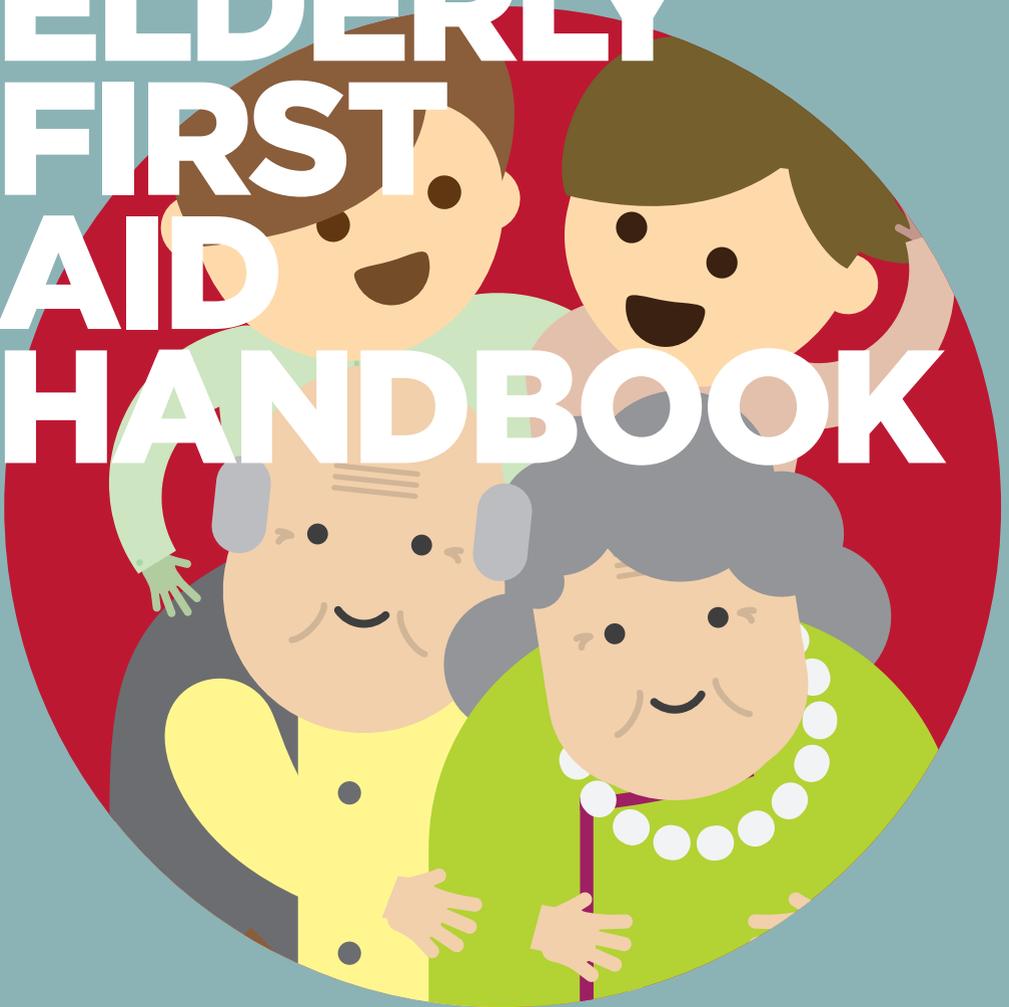




Presents

ELDERLY FIRST AID HANDBOOK



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FOREWORD

These two handbooks were written by a group of medical students of the University of Hong Kong (HKU) with the guidance from the academic staff of the Emergency Medicine Unit of the HKU. The students have formed an Emergency Medicine Interest Group with the vision of serving the community of Hong Kong through their knowledge in Emergency Medicine.

Ageing population is a worldwide phenomenon. It is expected that the proportion of people aged 65 or above would rise from 13% in 2011 to 30% in 2041 in Hong Kong. With increasing number of senior citizens in the community, how to best respond to their healthcare demands should be everyone's concern.

These two handbooks aim at guiding the readers across the vast topic of first aid for an ill or injured elderly. It is primarily written for the caretakers of the elderly in the community. But readers other than the caretakers of the elderly may also find the two handbooks useful if they come across an elderly who is acutely unwell. These two handbooks are neither authoritative nor comprehensive. It is hoped that readers would pursue further study on the topics in which they are interested and help themselves better respond to an ill or injured elderly under their care.

The Emergency Medicine interest Group and the Emergency Medicine Unit would like to thank the 'We Are With You' Fund for the support in the production of these handbooks.

KL Fan, LP Leung
June 2016

Disclaimer

Every effort has been made to ensure the accuracy of the content of these two handbooks. Nevertheless, the authors, the editors and publishers can make no warranties that the information contained herein is totally error-free. Readers are strongly advised to consult the relevant specialists or literature before following the recommendation in these two handbooks. The authors or any party involved in the production of these two handbooks disclaim any liability, loss, injury or damage resulting from the use of these two handbooks.

PROCESS OF AGEING

Physiology/Anatomy of Ageing

Ageing is a term to describe the changes in our body functions when we get older. The changes affect every body system and are affected by environmental and genetic causes. The following are changes that appear in our body during the process of ageing.

General

- Decrease in body mass
- Decrease in the proportion of body fat

Skin

- Wrinkling and sagging especially on face, neck and hands
- Getting thin and pale
- Wounds heal more slowly or may not heal at all
- Reduced sensitivity to cold
- Reduced sweating
- Reduced resistance to UV light damage

Muscle

- Reduced muscle mass (30-40%) and muscle power
- Becoming fatigued earlier and more easily during exertion
- Lower regenerative ability
- More fat in muscle tissue

Skeleton

- Both men and women lose bone mass during ageing
- Women have faster loss in bone mass, which accelerates after menopause
- Men have slower bone loss, as they start losing other tissues as well
- Higher prevalence of osteoporosis in both genders

Nervous system

- Slower central processing and longer reaction time
- Reduced sensitivity to vibration especially in feet
- Less sensitivity to temperature
- Modest loss of neurons
- Slight decrease in brain mass

Eyes

- Yellowing of lens
- Higher prevalence in cataract
- Lower light sensitivity
- Poorer dark adaptation
- Reduced tear production
- Minimal decrease of visual acuity at rest but significant decrease of visual acuity with a moving target



PROCESS OF AGEING

Respiratory system (breathing)

- Decrease in diaphragm strength
- Decrease in lung volume and air flow rate
- Increase in residual air in lungs

Digestive system

- More stomach acid production
- More common to have constipation
- Reduced absorption of nutrients
- Decrease in liver mass

Heart and blood vessels

- No change in heart rate and contraction force at rest
- Less increase in heart rate and contraction force during exercise
- Moderate increase in heart size
- Stiffer heart and blood vessel tissues
- Increased blood pressure

Kidney, urinary and genital systems

- Decrease in kidney filtration function, concentration ability and dilution of urine
- Decrease in kidney mass
- Incomplete bladder emptying leading to increase in residual urine
- Less intense orgasms (both men and women)
- Longer resting time between orgasm and next erection for men

Immune system

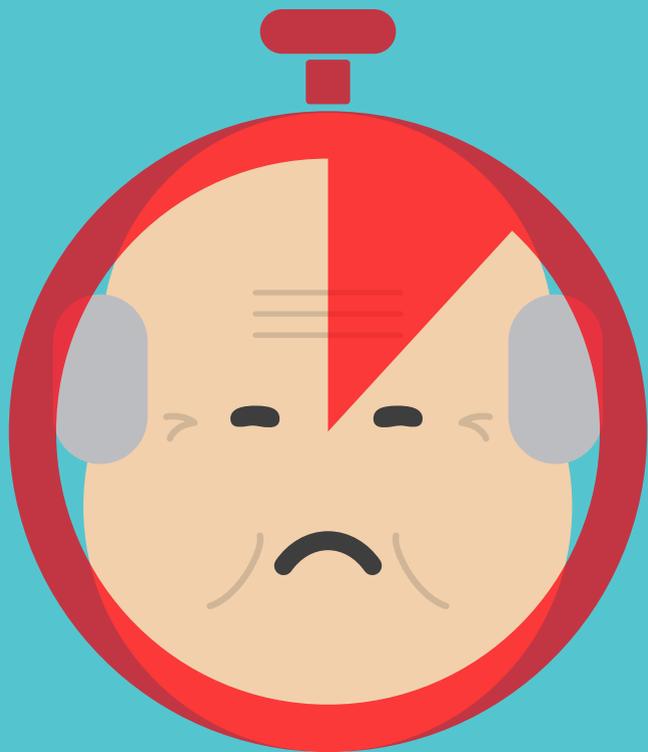
- More prone to infection
- Reduced response to vaccination

Other systems

- Impaired shivering
- Decrease in sensitivity of smell
- Decrease in thirst drive
- Deterioration of balance
- Loss of hearing in high-frequency tones

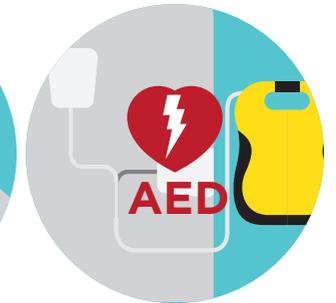


BASIC LIFE SUPPORT



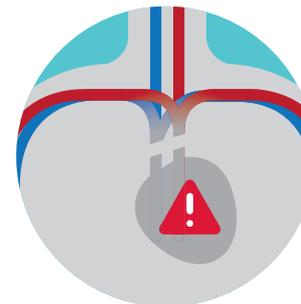
Basic Life Support (BLS)

Basic Life Support is the combination of emergency procedures needed to ensure a person's survival, including cardiopulmonary resuscitation (CPR), control of bleeding, treatment of shock and poisoning, stabilization of injuries and/or wounds, and basic first aid. In this chapter, we will cover CPR, recovery position, and automated external defibrillator (AED).



Why Basic Life Support?

It is important to learn BLS because emergencies happen! There are a lot of things you can do with little or no equipment to deal with medical emergencies, and you could potentially save a life with these simple skills.



Why learn Bystander CPR?

Because Bystander CPR is a simple and effective way to keep a person with sudden cardiac arrest alive. This is a series of actions to support the breathing and circulation of a person whose heart has stopped beating, and help maintain blood perfusion to the vital organs to a certain extent to buy time for more definitive treatment.

What is sudden cardiac arrest?

Sudden cardiac arrest (SCA) is when there is a sudden failure of the heart to contract effectively, so that the delivery of oxygen by blood to the body tissues, including the brain and the heart itself, is disrupted, or even stopped. This situation is very dangerous, and is one of the leading causes of death worldwide, especially in the elderly. The median age of SCA in Hong Kong is 80 years old. Two-thirds of the cases occur at home, and 40% occur witnessed. Yet, only about 30% of the elderly in Hong Kong get immediate CPR from a bystander. This is very low compared to other developed countries, and many more lives could potentially be saved if more people step out to carry out CPR on an elderly with SCA.

Average age **80**
 Witnessed **40%**
 CPRed **30%**

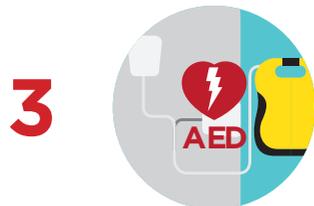
How does Bystander CPR help?

The Chain of Survival

The Chain of Survival is a closely packed series of five steps to keep the chances favorable for a SCA elderly to stay alive. The steps are:

- 1) **Early access to care (e.g. calling 999)**
- 2) **Early CPR**
- 3) **Early defibrillation (i.e. with an AED)**
- 4) Early advanced care (by professionals)
- 5) Good post-resuscitation care

Each one of these steps must be done well and early, and with the Bystander BLS routine, you will already be covering the first 3 key steps in saving the elderly. Here is how to do it.



Compression-only Bystander CPR

CPR is one of the most important first aid techniques, it's a **series** of actions to **support the circulation of a person whose heart** has stopped beating. This helps maintain blood perfusion to the vital organs to a certain extent to buy time for more definitive treatment.

If you have not been trained in CPR, or do not wish to have mouth-to-mouth contact with a stranger, you can do compression-only CPR. **It is as effective as the conventional bystander CPR.**

The approach can be remembered with a mnemonic of :

Danger + Check + Call + Chest Compression

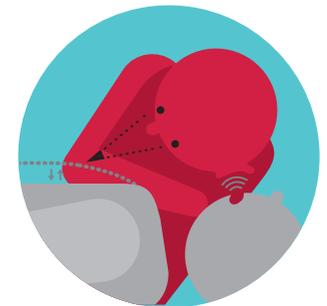
1 Danger

Check if the environment is safe for you and the elderly

2 Check

Check the elderly for **Responsiveness**: call the elderly; shake the elderly's shoulders

Breathing: observe if there are chest movements; listen for any breathing **sound**



3 Call

IF the elderly is not responsive **AND** not breathing properly, call for help by
- **Dialing 999**
- Asking a bystander to take the nearby AED for you

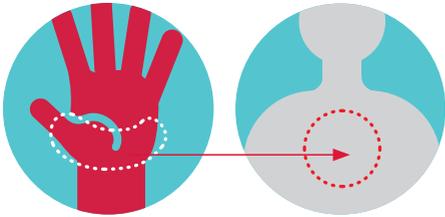
Proceed to CPR (C A B)

4 Chest Compression

Compression-only Bystander CPR

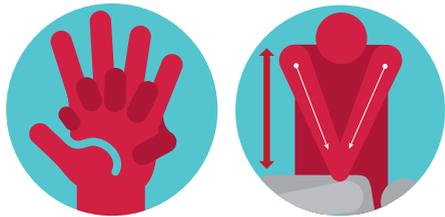
A. Position

Place the heel of a hand on the breastbone at the center of the elderly's chest.



B. Posture

Place the other hand on top of the first hand, and make your fingers interlocked. Move your shoulders so that they are directly above your hands, keep your arms vertical and straight throughout. Do not bend them even as you apply pressure.

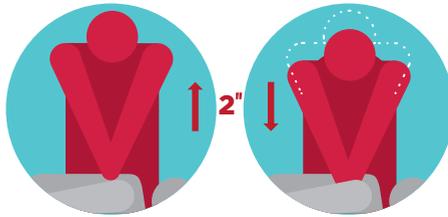


E. Recoil

After each press, make sure you allow the chest of the elderly to recoil.

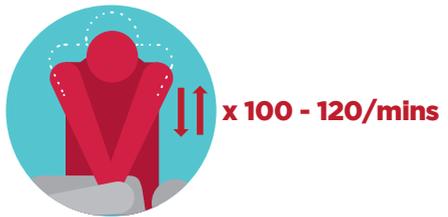
C. Depth

Using your body weight, press the elderly's chest down hard for 5-6 cm (2 inches - 2.4 inches).



D. Frequency

Press repeatedly and fast with the same posture at a frequency of 100-120 per minute. As a rule of thumb, run the song Staying Alive "Ha, ha, ha, ha, staying alive, staying alive..." in your head. Each beat roughly corresponds to one press. Alternatively, follow the best of the song 急救進行中



Conventional Bystander CPR

This is a series of actions to support the breathing and circulation of a person whose heart has stopped beating. The approach can be remembered with a mnemonic of :

Danger + Check + Call + C A B

1 Danger

Check if the environment is safe for you and the elderly

2 Check

Check the elderly for **Responsiveness**: call the elderly; shake the elderly's shoulders

Breathing: observe if there are chest movements; listen for any breathing **sound**

3 Call

IF the elderly is not responsive **AND** not breathing properly, call for help by
- **Dialing 999**
- Asking a bystander to take the nearby AED for you

Proceed to CPR (C A B)

4 C A B (CPR)

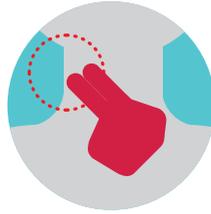
C - Circulation
A - Airway
B - Rescue Breaths

Conventional Bystander CPR

C for Circulation - Chest Compression

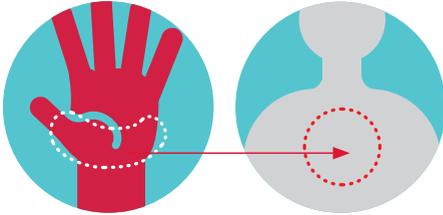
(Optional) If you **have been trained and confident in doing pulse check**, check if there is a neck (carotid) pulse by placing two fingers on the side of the prominence at the front of the neck.

Check one side at a time.



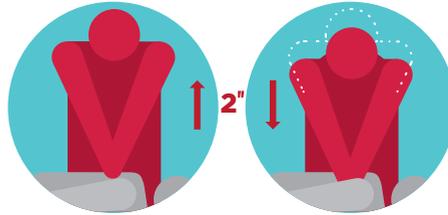
A. Position

Place the heel of a hand on the breastbone at the center of the elderly's chest.



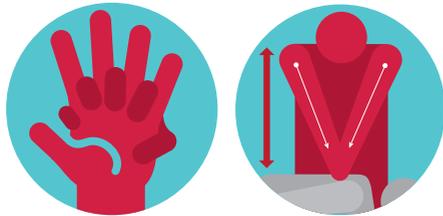
C. Depth

Using your body weight, press the elderly's chest down hard for 5-6 cm (2 inches - 2.4 inches).



B. Posture

Place the other hand on top of the first hand, and make your fingers interlocked. Move your shoulders so that they are directly above your hands, keep your arms vertical and straight throughout. Do not bend them even as you apply pressure.



D. Frequency

Press repeatedly and fast with the same posture at a frequency of 100-120 per minute. As a rule of thumb, run the song **Staying Alive "Ha, ha, ha, ha, staying alive, staying alive..."** in your head. Each beat roughly corresponds to one press. Alternatively, follow the best of the song **急救進行中**



E. Recoil

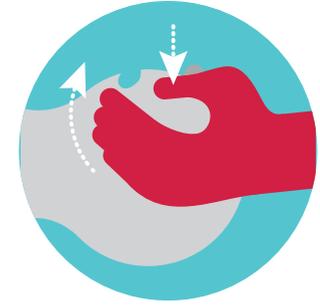
After each press, make sure you allow the chest of the elderly to recoil.

A for Airway

If **neck injury is not suspected**, head-tilt and chin-lift can be performed: Tilt the head back, and lift the chin up.



If neck injury is suspected, jaw thrust can be performed instead.



B for Rescue Breaths

After 30 chest compressions, give 2 breaths.

Place your mouth on the elderly's mouth so that it is airtight, and blow steadily into his/her mouth.

Each breath must last about 1 second.

Observe to see if his/her chest rises. If so, the rescue breath is effective.

In conventional bystander CPR, the cycle between chest compressions and rescue breaths in a 30:2 ratio, in which 30 chest compressions are followed by 2 rescue breaths.

Repeat the procedure until

- the elderly regains consciousness with normal breathing and heart rate
- an ambulance has arrived
- the AED has arrived
- you are exhausted and cannot carry on.

Automated External Defibrillator (AED)

Commonly called AED, the device has a daunting full name Automated External Defibrillator. However, its principles and use are actually not difficult to grasp.

Sudden cardiac arrest, in which the heart stops beating suddenly, can cause death within minutes if untreated. The 2 major causes of sudden cardiac arrest, both triggering irregular heartbeats, are ventricular fibrillation and ventricular tachycardia. The commoner cause is ventricular fibrillation, in which the lower chambers (*ventricles*) of the heart quiver quickly and irregularly. The other cause is ventricular tachycardia, in which the ventricles have regular, fast beats that lasts for a short period of time.

The AED can be used in this condition to assess the heart rhythm and restore it to normal by administering electric shocks to the heart. CPR also helps the chance of survival.

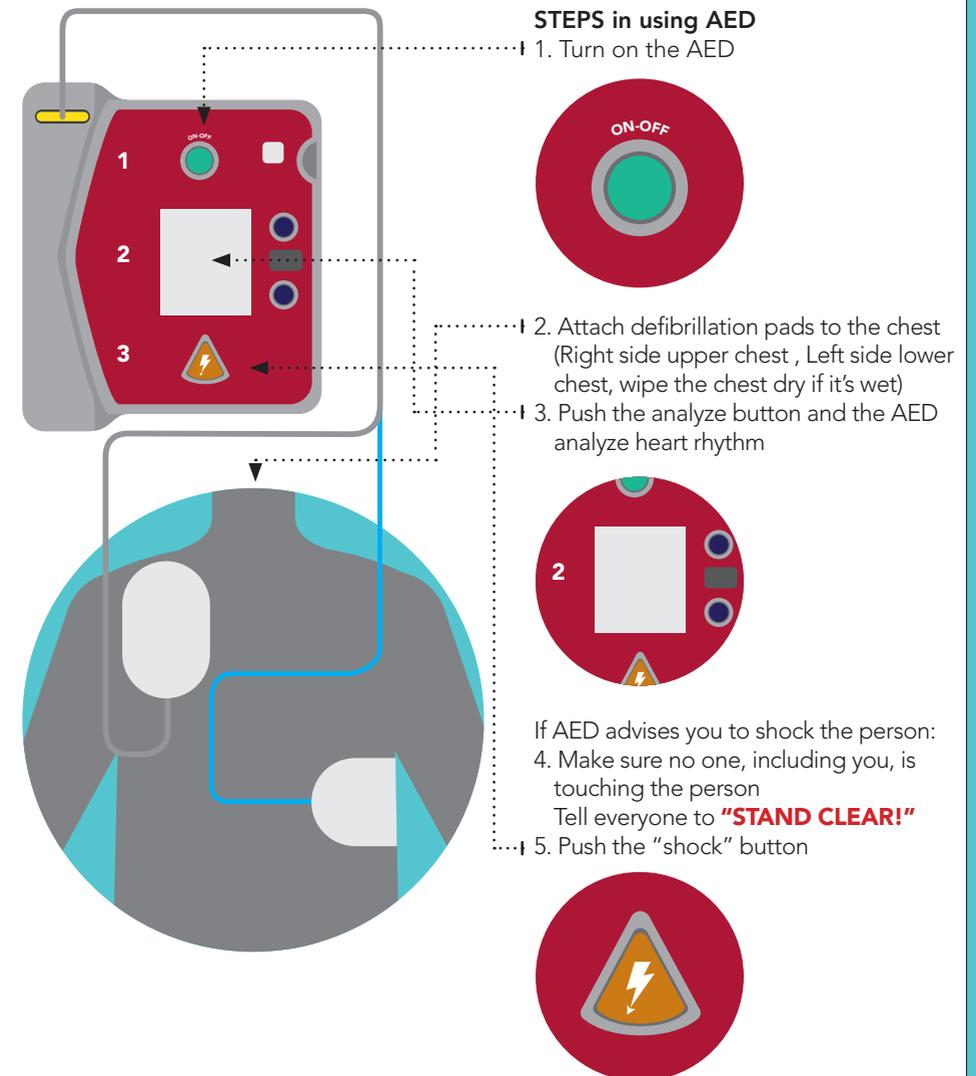
AED sets usually come with spoken or visual instructions for the untrained user and are easy to use. An important point, though, would be to **make sure that no one is touching the elderly when the shock is being administered.**

AEDs can be found in many public places, such as shopping malls, airports, hotels and schools. You can find them directly under these signs



It's important for the local EMS system and Community members to know where AEDs are located in the community. In the event of a sudden cardiac arrest emergency, you can find AED quickly.

There are many different brands of AEDs, but the same basic steps apply to all of them.



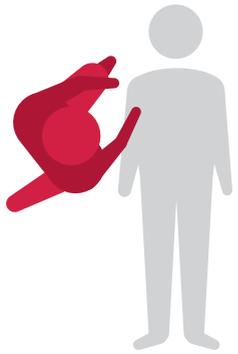
If AED advises you to shock the person:

4. Make sure no one, including you, is touching the person
Tell everyone to **"STAND CLEAR!"**
5. Push the "shock" button

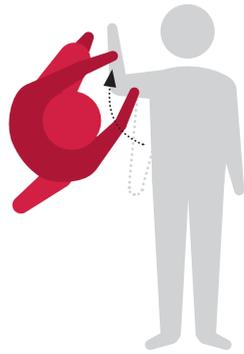
Recovery Position

If the elderly is unconscious **without any suspected neck injuries and breathes spontaneously**, he/she should be placed in the recovery position. The recovery position keeps the airway patent, and prevents the elderly from aspiration.

1. Kneel by the right side of the elderly.



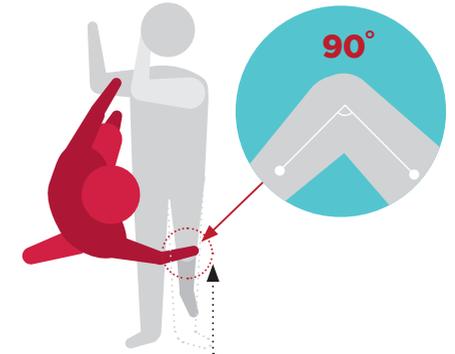
2. Place the right arm of the elderly at right angle with his/her palm facing up.



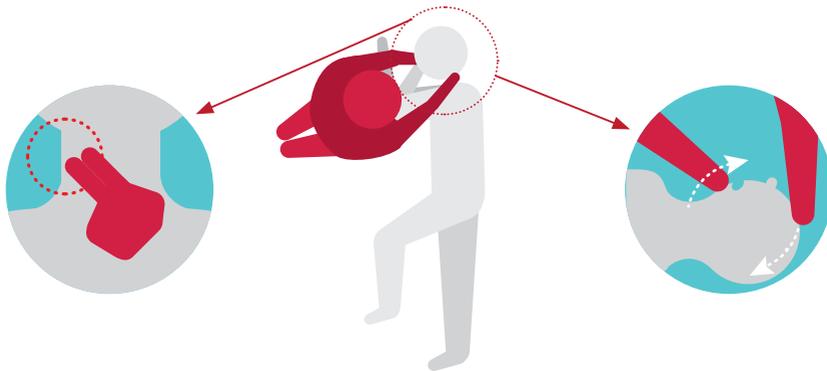
3. Hold the left hand of the elderly and place the back of the hand against his/her right cheek.



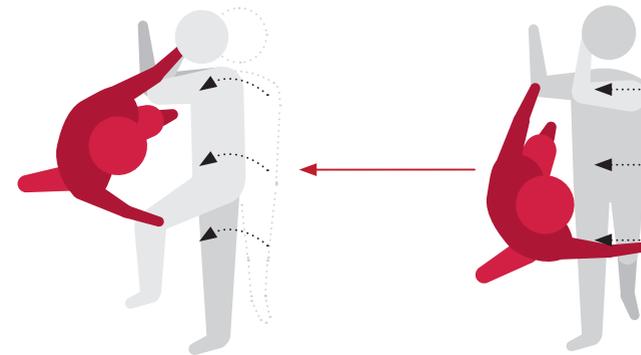
4. Grasp his/her left leg and bend to a right angle.



6. Gently tilt the head back, and lift the chin (head-tilt and chin-lift), and perform the airway check of ABC again if you have not done so.



5. Keep his/her left hand on the right cheek. Pull the bent leg towards you to make the elderly roll to your side. His/her left arm should prevent the elderly from rolling too far.



Stay with the person and monitor the elderly's ABC continuously until an ambulance arrives. If the injuries are not too severe, turn the person to the other side after 30 minutes.

LIMBS



Soft Tissue Injuries



Background

Soft tissue injuries can be classified into bruises, strains and sprains. Injuries can either be acute, which happens suddenly, or overuse injury, which is caused by repetitive tasks over a long period of time or bad postures. Ankle sprain and back strain are the most common soft tissue injuries as a result of improper physical activity.

Bruises can be a result of an injury by a blunt force leading to bleeding in the soft tissue. Strains can be due to overstretching of muscles and tendons leading to tearing of muscles & tendons. Sprains can be caused by forcing joints beyond normal range of motion leading to overstretching of ligaments.



Symptoms and signs

- Bruise
- Pain
- Swelling
- Limited movement in injured part



Wounds



As a first aider

- Relieve symptoms by medication and physical method

Do's

- Soft tissue injuries should be treated with "RICE":
 - Rest** Rest the injured part and avoid moving it
 - Ice** Apply ice or cold compress (wrapped in a towel) on the injured part
 - Compression** Provide comfortable support
Compression with elastic bandage
 - Elevation** Elevate the injured limb
- Simple painkillers such as paracetamol could be used to relieve pain as instructed by doctor

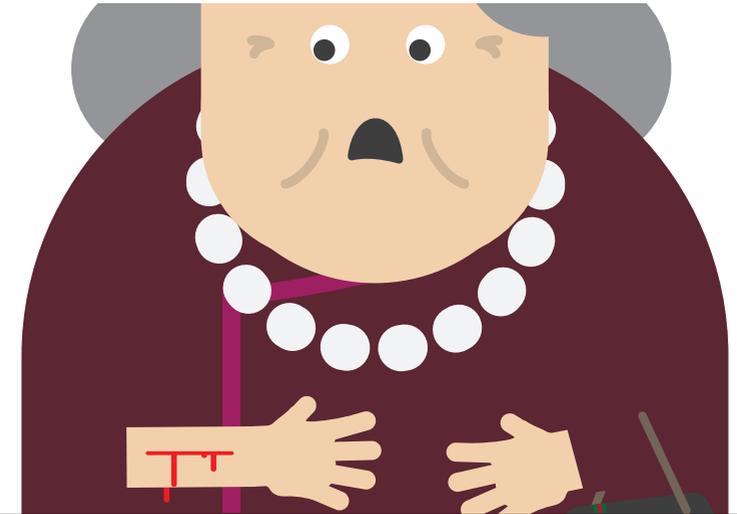
Don'ts

- Move the injured part unnecessarily
- Apply heat to the injured part
- Apply herbs without prior medical consultation



Background

Good wound care is especially important for elderly with chronic diseases, as they have an increased risk of wound infection. Common types of wound are minor cuts, scratches, deep cuts/penetrating wounds, and skin tear.



!! CAUTION !!

- ! Wounds that are large or deep !
- ! Wounds contaminated by foreign bodies !
- ! Wounds caused by animal bite !
- ! Wound occurring over joints !
- ! Wound with large skin loss !
- ! Wounds not treated for 8 or more hours !





As a first aider

- Stop bleeding from the wound
- Prevent wound infection
- Recognize red flags as they require medical attention, for example, tetanus prophylaxis

Do's

1. Stop bleeding (if any), using gauze for compression
2. Clean wound
3. For minor injuries, rinse the wound surface with running water
4. For deep injuries, rinse the wound with running water, then disinfect the wound
5. For skin tear, disinfect **both** the wound surface and the underside of the skin tear using Hibitane, then rinse with saline
6. Cover and dress wound
7. The preferred method is open method. Non-waterproof adhesive dressing is the most convenient to use
8. For large skin tear, lay the skin flap back on the wound and cover the entire area with gauze. Seek medical attention IMMEDIATELY

Don'ts

1. Cover wound with emulsifying ointment (豬油膏), toothpaste, vinegar or soy sauce
2. Clean wound with alcohol or hydrogen peroxide
3. Rip off a bandage too quickly, which may reopen a healing wound



Remarks

Types of disinfectants

Solution

Hibitane



Ingredient:

Chlorhexidine gluconate

Effect:

Disinfectant effect

Cetrimide



Ingredient:

Cetrimide in addition to chlorhexidine gluconate

Effect:

Detergent effect

Dry powder spray

Betadane



It is sprayed over the wound and forms a protective layer

Ingredient:

Povidone iodine

Effect:

Disinfect the wound and absorb any exudate that comes from the wound

Types of dressings

Closed Method

Change the dressing every 2-3 days to avoid infection and allow any exudate to leave

Fine Tullles



Fine tullles have smaller holes. Cover the wound with a single layer

CoarseTullles



Coarse tullles are more common on the market and they have larger holes. Cover the wound with two layers

Waterproof adhesive dressings



Open Method

This is the preferred method for most wounds. The dressings (besides silicon) should be changed after showering or after coming in contact with water

Non-adhesive dressings



Non-waterproof adhesive dressings

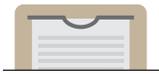


Silicon dressings



It can be changed every 7 days because the dressing has holes that allow exudate to flow away

Fractures



Background

Fractures usually occur in acute events such as falls and accidents. It can also be a form of overuse injury. Elderly is prone to fracture even in trivial injuries due to brittle bones. Common fracture sites include the hip, upper arm, wrist, spine and ribs.

Elderly are prone to fall as a result of reduced muscle power and balancing ability. With ageing, the density of bone drops (osteoporosis) and the bones become brittle. Elderly

can fracture their upper end of thigh bone from a simple move or minor injury. Hip fracture is one of the top injuries in elderly. Wrist fracture is another common injury from a fall on to an outstretched hand. It results in a forced backward displacement of hand and fracture of the bone in forearm.

Osteoporosis, physical inactivity, smoking, drinking and steroid therapy are risk factors of fractures.



Symptoms and signs

- Snap sound heard as bone breaks
- Pain
- Swelling
- Deformity at fractured site
- Inability to move the injured limb
- For an open fracture, a wound, possibly with bone visible



As a first aider

- Recognize that there is a fracture and seek medical consultation as soon as possible
- Prevent further injury

Do's

1. Immobilize the injured limb with a splint if available
2. If no splint is available, use a triangular bandage for support if it is the upper limb that is injured
3. Cover the wound, if present, with a clean dressing

Don'ts

1. Move the injured limb unnecessarily
2. Apply heat locally
3. Apply herbs locally
4. Try to reduce any deformity
5. Try to push back any visible bone if it is an open fracture

Remarks

Upper Limb Splint

Things to check beforehand

1. Locate site of possible fracture
2. Check circulation below fracture site



Symptoms & signs of Poor circulation are:

- Weak/absent pulse below the fracture site, e.g. radial pulse in case of arm fracture.
- Pale, white or bluish skin
- The distal limb is cool.
- Numbness or tingling of limbs

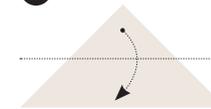
Materials



Triangular bandage x 3
Splints: rigid boards, sticks x 2
Padding: blankets, clothes x 1

Folding method of triangular bandage into longitudinal bandages

1



Triangular bandage

2



Fold the top of the triangle down so that the tip of the triangle touches the base – Cravat (1-fold)

3



Fold the top edge down so that it touches the base – Cravat (2-folded)

Steps

1

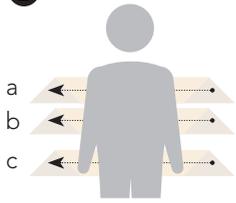


Lie down

the victim supine with the injured arm resting next to the trunk.

Upper Limb Splint

2

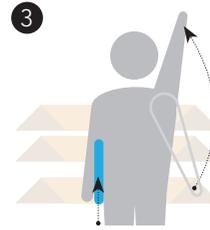


Placing bandages

Fold three cravats into longitudinal bandages, and push them under natural body curvature.

- a / above the fracture site
- b / below the fracture site
- c / at the site wrapping from the wrist to the contralateral pelvis. (Avoid pressing directly on the suspected fracture site)

3



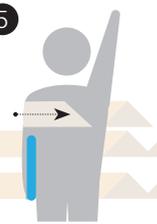
Apply padding

Place paddings between the fractured upper limb and the trunk that are going to be splinted.

4



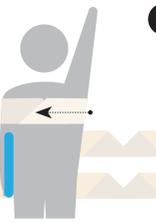
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6



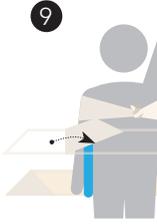
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8



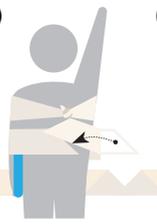
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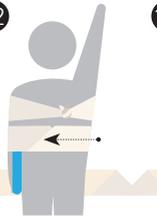
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11



12



13



14



15



16



17



18



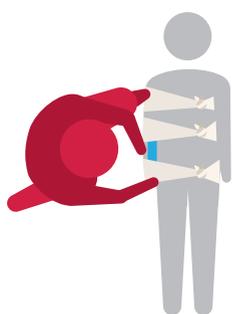
Wrap around

Wrap the cravats from the injured limb to the contralateral side of the trunk one by one.

Tie knots

Tie the ends of each cravat in a non slip knot on the contralateral side of trunk and away from the causality. The cravat should be tight enough to hold the fracture upper limb securely in place, but not tight enough to interfere with blood circulation.

19



Check circulation

Observe the limb below the cravats for signs of impaired circulation after securing all the three cravats.



Signs and symptoms of poor circulation

- Cooler temperature
- Bluish color change of skin
- Increasing pain
- Numbness or tingling sensation
- Reduced or absent of movement
- Weaker or absence of pulse

20 Finish!

Dial 999 to call for ambulance



Lower Limb Splint

Before splinting

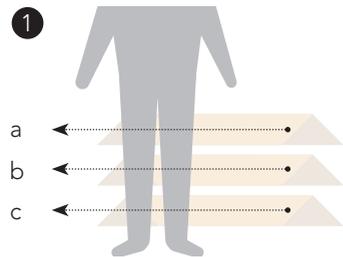
1. Avoid moving the fractured limb
2. Check for
 - a / Touch sensation
 - b / Ability to move
 - c / Pulse

Materials

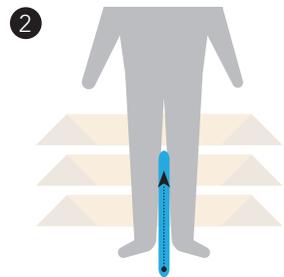


Triangular bandage x 4
Splints: rigid boards, sticks x 2
Padding: blankets, clothes x 1

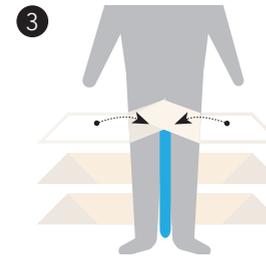
Steps



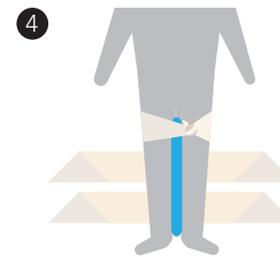
Slide three triangular bandages under both legs:
a / above the site of fracture,
b / below the site of fracture
c / under the knees.



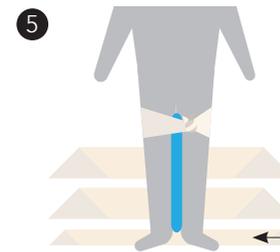
Place a splint or padding between the legs. It should be long enough to extend from the thigh to the ankles.



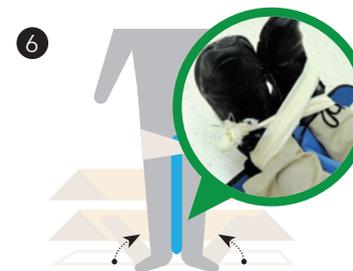
Bring the two ends of the triangular bandage under the knee together.



Tie the knot of the triangular bandage over the knee of the uninjured leg. Make sure the bandage is tight enough so that no movement is possible.



Take another triangular bandage and fold it in half three times, so that it is half the width of the other triangular bandages. Slide this bandage under the ankles.

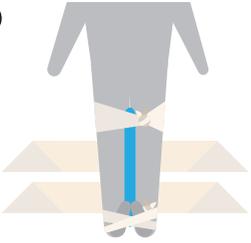


Next, tie a figure of eight bandage around the ankle.

Tie the triangular bandage around the feet and cross over at the dorsum of the feet. Wrap the bandage around the feet one more time.

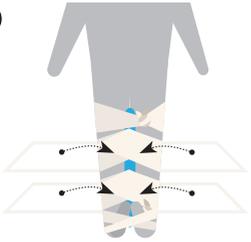
Lower Limb Splint

7



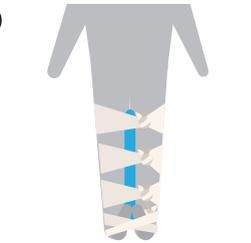
Tie the knot of the triangular bandage over the uninjured foot.

8



Tie the remaining two triangular bandages, tying knots over the uninjured leg.

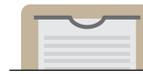
9



After tying all four bandages, check for touch sensation, ability to move and pulses again. Note the color and temperature of the skin.



Dislocation



Background

Dislocations are caused by a force (from falls, collisions, accidents) resulting in the bone being moved into an abnormal position and articulation. Anterior shoulder dislocation, which results from fall on outstretched hand or direct impact to shoulder, is the most common site of dislocation. Closed reduction must be done quickly by experienced personnel.

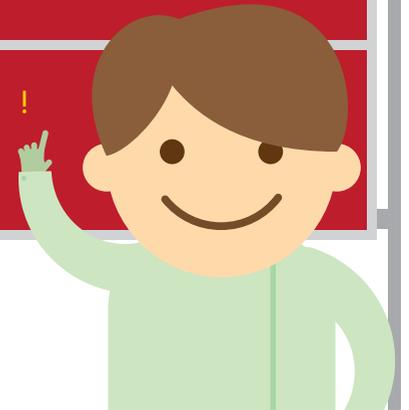


Symptoms and signs

- Snap sound heard as bone breaks
- Pain
- Swelling
- Deformity in the injured area
- Unable to move the joint

!! CAUTION !!

! Loss of sensation, motion !
or circulation beyond
injured part



As a first aider

- Recognize the condition and seek medical help immediately

Do's

1. Seek emergency medical help immediately for reduction
2. Advise the casualty to stay still
3. Support the injured limb in position of comfort

Don'ts

Attempt to reduce the joint if not trained

Fall



Background

Falls are the most common cause of injury in the elderly. It can cause significant immobility, morbidity, and mortality. The outcome of the fall may be determined more by the underlying reasons (such as existing diseases, or compromised body functions) than the actual injuries.

Risk factors for fall include history of fall, gait and balance problems, impaired mental status, drugs (more than four types, or antihypertensive, pain-killing, diuretic, psychotropic drugs), neurological diseases and weakness of legs (e.g. stroke, Parkinson's, etc.), impaired sight (e.g. glaucoma, cataract, etc.), problems with foot (calluses, nail disease, joint problems), alcohol, low blood pressure and environmental hazards.

Fall Prevention



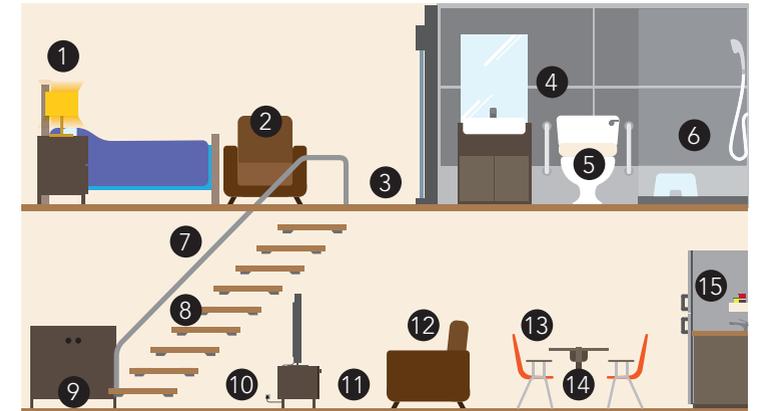
Background

There are two approaches to preventing falls. Primary fall prevention concerns itself with avoiding fall, and secondary fall prevention focuses on detecting the risk of fall. Both preventions have been intensively studied, and secondary prevention has been shown to be the most efficient. It is difficult to prevent falls completely, and repeated falls are more dangerous to the patient than the risk of falls alone.

An efficient secondary prevention involves the education to the elderly and their caregiver. All elderly with the age above 70 should be counseled for the specific measures of fall prevention if they have one of more risk factors as above. They are encouraged to exercise at the level compatible with their physical fitness.

The most successful preventive approach is to assess multiple factors and take measures targeting the risk factors in the elderly. It encompasses the following aspects:

- Medications: review and reduction (esp. psychotropic drugs) if necessary
- Balance and gait training
- Exercise to strengthen muscles
- Postural blood pressure monitoring
- Home hazards modifications



Reduce your risk of falling at home

Bedroom

1. Keep a light - a lamp, light switch or night light - near your bed
2. Sit down to get dressed.
3. Keep loose items off the floor

Bathroom

4. Install grab bars near toilet and shower
5. Put a riser seat on the toilet
6. Use a shower chair and handheld shower head while bathing

Stairs and Hallways

7. add handrails on both sides of the stairs
8. Install anti-slip strips on each stair
- 9 make sure pathways are well-lit and clear of tripping hazards

Livingroom

10. Move cords and other objects out of walkways
11. Remove rugs or securely tape down their edges
12. Use a cushion or a seat riser if your favorite chair is too low to easily stand from

Kitchen

13. Use dining chairs that have arm rests and no wheels
14. Don't clean with high-gloss wax floor protector
15. Move things so they are within easy reach

Particular attention must also be paid to these items, and they should be corrected as soon as possible:

- Inappropriate footwear inducible to slipping and loss of balance
- Inappropriate use of walking aids
- Uncorrected vision impairments

For elderly living alone, it is helpful to install an emergency alarm system (see Section 5 - Call for help). On the other hand, there is evidence that a supplement of vitamin D can help prevent falls and fractures in older people. Consider asking a doctor for advice.

Exercise is an effective method of countering certain ageing effects, preventing falls, and enhancing quality of life in general, and is beneficial no matter the person falls or not. Some of the other benefits include, but are not limited to:

- Slowing bone and muscle loss
- Decrease cognitive impairment and improve function
- Decrease constipation and incontinence
- Improve blood sugar control
- Enhance sleep

The amount of exercise can vary according to the relative fitness of the person. For a high-fitness elderly, 30-60 minutes of moderate activity (such as brisk walking, light cycling or badminton) 5-7 days per week may be suitable. For low-fitness elders, moderate activity of less than 10 minutes may be permitted, but a gradual increase in duration is recommended.

There is also a large amount of evidence pointing to the importance of balance training in fall prevention, such as dancing or Tai-Chi. Other simpler balance exercises also exist. Consult your doctor or physiotherapist for more information.

Steps to Get Up After Fall

1



After fall, try to find a chair for facilitating you to climb up. If possible, try to crawl near the chair.



2



Use one hand to hold the chair as supporting for lifting up your body.



3



Then use both hands to grab the chair. Try to lift up on leg stepping on the ground while the other leg knees on the ground.

4



Try to stand up with both legs.

5



Sit on the chair and take a rest.

Traumatic Spinal Cord Injury



Symptoms and signs

- Numbness (loss of sensation) in any part of the body
- Weakness of muscle after trauma
- Urinary or faecal incontinence with loss of feeling around the anus.
- Neck pain elicited by touching

!! CAUTION !!

**! Be extremely gentle when touching !
the back of the patient with
suspected spinal cord injury**



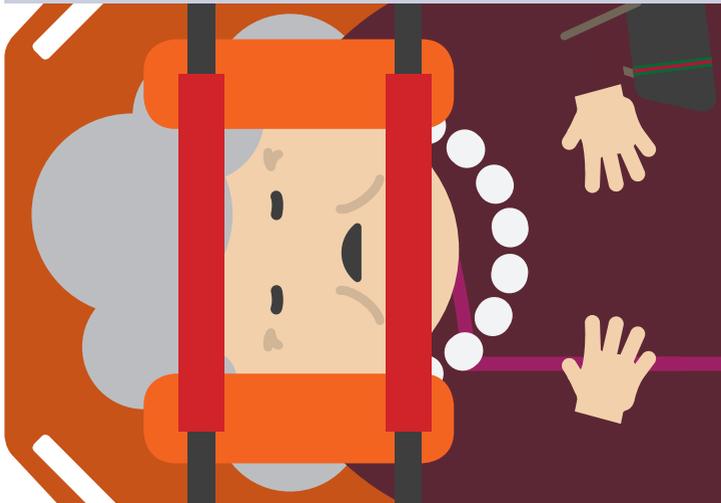
As a first aider

Do's

Seek medical help as soon as possible.

Don'ts

Unless the patient is in a dangerous place, do not move the patient.



MUSCULO-SKELETAL



Acute Gout Arthritis



Background

Acute gout is a condition of acute inflammatory arthritis — a red, tender, hot, swollen joint. It affects 5% of Hong Kong population and the hospitalization rate is significantly higher among elderly patient.

Acute gout is induced by excess uric acid in blood leading to crystal formation in joints. It could happen in uric acid over-production, excess consumption of high-purine foods like meat and fish, consumption of alcohol, medications such as diuretics, under-excretion of uric acid, and renal failure.

Under-excretion of uric acid by the kidney is the primary cause of hyperuricemia in about 90% of cases, while overproduction is the cause in less than 10%. However, only 10% hyperuricemia patients develop gouty arthritis.

The risk factors for acute gout include overweight, high blood pressure, purine rich diet (like meat and fish), consumption of alcohol, and medications such as diuretics.

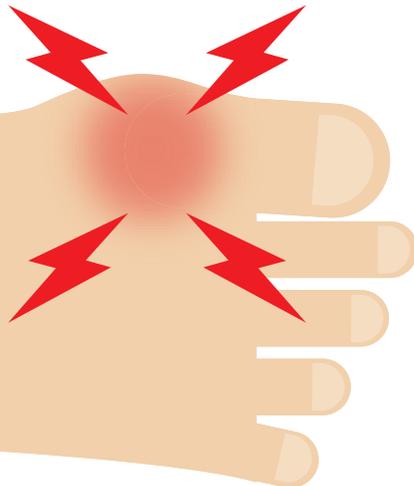


Symptoms and signs

During a gout attack:

- Sudden burning pain and stiffness in a joint (affects the big toe in 50% of cases, may also happen in ankle and knee)
- Redness

Pain and swelling are worst at the beginning of gout attack. Most occur during night time



!! CAUTION !!

- ! Affecting a joint not usually involved !
- ! High fever with chills and rigors !
- ! History of diabetes mellitus or any compromised states !

All these suggest it may not be a simple gouty attack but infection of the joint.



As a first aider

- Symptomatic relief by medication and physical method
- Bring the patient to consult family doctor early for definitive care

Do's

1. Rest the affected joint until the attack subsides and for the next 24 hours
2. Elevate affected joint
3. Use ice to reduce swelling
4. Seek further medical help if it is the first attack
5. For recurrent attack medications, (for example, NSAIDs, colchicine) may be taken as instructed by doctor. Treatment should start as soon as possible for more rapid and complete resolution of symptoms
6. Stick to a low purine diet

Don'ts

1. Apply warm pad to affected joint
2. Discontinue allopurinol if taking it regularly
3. Delay medical consultation if symptoms do not respond promptly to treatment of gout

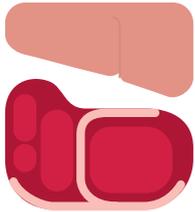


Remarks

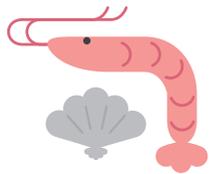
Dietary control is important to reduce the risk of recurrent gouty attacks. It should contain vegetables, fruits and low-fat dairy products. Drink enough water daily to keep body well-hydrated. Consumption of fish, poultry and lean meat should be kept to 4-6 ounces per day. Dietitian advice is desirable.

High-purine food and beverage that should be avoided:

Meat – especially fatty red meat, goose and organ meats



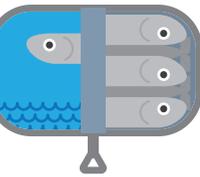
Shellfishes – Mussels, clams, scallops, shrimps



Alcohol



High fructose corn syrup-sweetened sodas, beverages, or foods

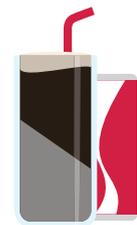


Fishes – sardines, mackerel, salmon

Mushrooms, asparagus, cauliflower, spinach

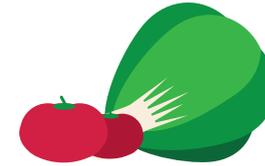


Yeast



Food and beverage that are safe to consume (low in purines):

Green vegetables and tomatoes



Breads and cereals that are not whole-grain



Chocolate and cocoa



Coffee, tea, and carbonated beverages



Dairy products that may lower your risk of gout:

- Low-fat or nonfat milk
- Low-fat yogurt



Fruits



Butter, buttermilk, cheese, and eggs



Peanut butter and nuts



Osteoarthritis



Background

Osteoarthritis is a common disease among the elderly population with 1 in 3 people aged 70 and older being affected. It is also one of the leading causes of disability particularly in elderly population.

Osteoarthritis is caused by degeneration of joints. It usually affects knees, hips, lower back, neck, joints of fingers and toes.

In the early stage, cartilages that help reduce friction between

the bones begin to break down, causing pain and swelling upon joint movement.

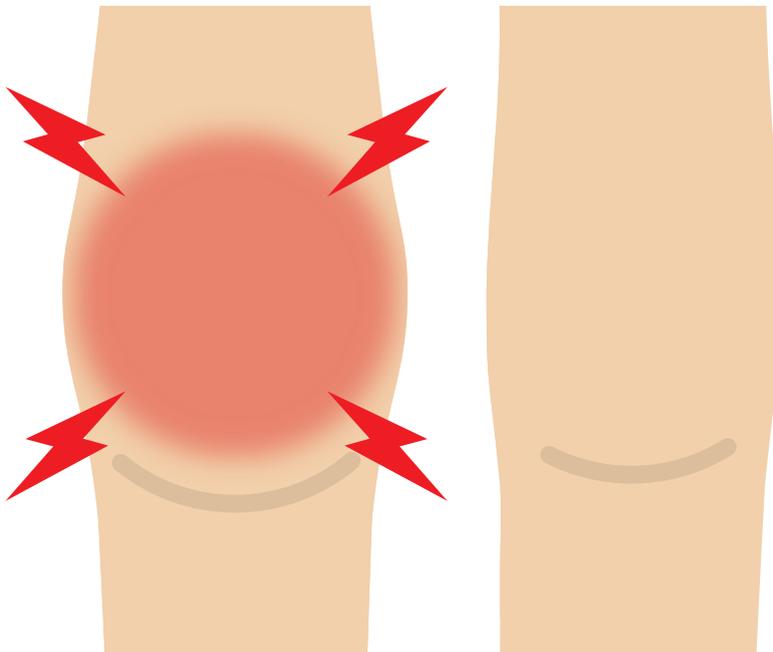
In the later stage, bone spurs may form on the joint causing further inflammation and damage to the joint.

The risk factors for osteoarthritis include ageing, overweight, trauma to joint due to repetitive movements. In particular, squatting and kneeling are common risk factors of knee osteoarthritis.



Symptoms and signs

- Limited range of motion due to pain and stiffness joints
- Clicking / cracking sound when moving a joint
- Mild swelling around the affected joint



!! CAUTION !!

- ! Affecting a joint not usually involved !
- ! High fever with chills and rigors !
- ! History of diabetes mellitus or any compromised states !



As a first aider

- Relieve the patient's symptoms by medication and physical method
- Consult family doctor for persistent symptom

Do's

1. For swelling in joints:

- Rest the joint
- Apply cold pad to affected joint for 20 minutes every few hours
- Compress the joint with elastic bandage
- Elevate the limb

2. For stiffness in joints:

- Apply hot pad to affected joint for 20 minutes every few hours if the joint is not red and hot

3. Lifestyle changes

such as light exercise (e.g. Tai Chi, stretching) and weight reduction may help in managing in osteoarthritis

4. Physiotherapy

– for suitable exercise routines

5. Occupational therapy

– for assistive devices to improve mobility

6. Simple pain killer and anti-inflammatory medication

can be used as instructed by doctor

Don'ts

Delay medical consultation if symptoms do not respond promptly to treatment

Lower Back Pain



Symptoms and signs

See further medical attention immediately if there is any of the following warning signs.

Serious cause of lower back pain	Warning sign
Cancer	<ul style="list-style-type: none"> - Previous history of cancer - Unexplained weight loss
Pott's disease (tuberculosis of spine)	<ul style="list-style-type: none"> - Low grade fever - Chronic cough with bloody sputum - Night sweat
Cauda equina syndrome (compression of the nerve in spinal cord)	<ul style="list-style-type: none"> - Urinary and faecal incontinence - Weakness in muscle and or sensory abnormalities - Loss of sensation in the inner thigh buttocks
Compressed nerve	<ul style="list-style-type: none"> - Muscle weakness / wasting - Numbness of limbs
Fracture	<ul style="list-style-type: none"> - Severe trauma: fall from height - Corticosteroid use - Osteoporosis (women in menopause) - Pain in spine relieved by lying down
Infection	<ul style="list-style-type: none"> - Severe pain after surgery in nearby site - Fever - Urinary tract infection - Immunosuppression - Intravenous drug user - Previous cancer



As a first aider

Do's

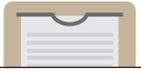
Paracetamol and NSAIDs may be beneficial. Use cautiously as instructed by the doctor.

Don'ts

There is a common misconception that lower back pain requires bed rest. However, if the pain is not due to trauma, active lifestyle is actually what the patient needs. Yoga, stretching and core strength building exercises may also be useful.



Neck and Shoulder Pain



Background

Muscle strains, degeneration, incorrect postures or even cancer can lead to neck and shoulder pain. In some cases, the neck and shoulder pain may radiate to the head, causing headache.

!! CAUTION !!

- ! Numbness and tingling sensation !
- ! Traumatic injury !
- ! Weakness in the limbs !
- ! Unexplained weight loss !
- ! Previous cancer !
- ! Dysphagia !



As a first aider

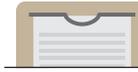
Do's

- Apply heat pads to relieve pain
- Exercise and correction of positioning may treat the neck and shoulder pain
- Consult doctor for further check-up if symptoms persist or worsen

Don'ts

- Over-twisting the neck to prevent further injury
- Over-straining the neck and the shoulder

Knee Pain



Background

Knee pain is extremely common in the elderly population. However the causes of knee pain may vary.

Causes

- Bursitis
- Torn ligaments or tendons
- Bleeding into the joint
- Gout
- Septic arthritis (infected knee joint)
- Soft tissue damage/ inflammation

!! CAUTION !!

- ! An extremely painful red hot knee may indicate septic arthritis, which is a medical emergency. Medical advice must be sought immediately or the knee joint may risk being damaged by the bacteria. !
- ! Inability to walk may also indicate serious problems and urgent medical advice should also be sought. !

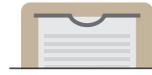


Remarks

Treatments

- Simple analgesics may be helpful.
- Rest the affected knee.

ALLERGY & ANAPHYLAXIS



Background

Allergy is a hypersensitive reaction of the immune system against a foreign substances (antigens). People who have allergy are sensitive to particular types of antigen.

Anaphylaxis is a severe allergic reaction. It can be life-threatening if not treated promptly. Death can be prevented if anaphylaxis is recognized immediately and cared for quickly.

Common triggers to allergic reaction include bee stings or insect venom, certain medications, pollen and dust.

Food ingestion is a common cause of allergic reaction in individuals with hypersensitivities to those foods. The most life threatening allergic reactions to food is usually caused by peanut. Seafood, cow's milk, eggs, soy and wheat are other examples.

Some people are allergic to particular chemicals and drugs, with the most common ones being antibiotics, sulpha drugs and latex.



Symptoms and signs

Allergic reactions can range from mild to severe.

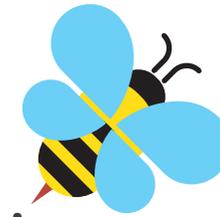
Signs and symptoms for mild to moderate allergic reaction, which may precede anaphylaxis

- Swelling of the lips, face, eyes
- Hives, itching, rash
- Weakness
- Nausea
- Stomach cramps
- Vomiting
- Dizziness

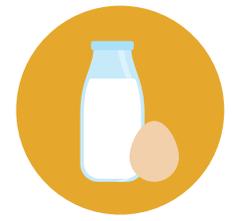
Some common triggers to allergic:



Medications



Bee stings



Food



!! CAUTION !!

- ! Hives, weals and body redness. !
- ! Swelling of face and tongue !
- ! Tightness in throat, hoarseness !
- ! Shortness of breath, noisy breathing, wheeze, persistent cough !
- ! Shock !
- ! Loss of consciousness !

**As a first aider**

- Recognize the signs and symptoms of anaphylaxis
- Seek emergency medical help immediately

Do's

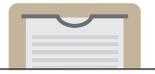
1. Seek emergency medical help , call 999 immediately if you suspect anaphylaxis
- 2. If the elderly is unconscious:**
Check for airway, breathing and circulation and perform CPR as indicated
- 3. If the elderly is conscious:**
 - a / Help him or her into a comfortable position, usually sitting
 - b / Calm and reassure the elderly
 - c / Check if the elderly has their own medication for allergy, assist them to take their medication
 - d / If the elderly carries an auto-injector of adrenaline, help them to use it
4. A second dose of auto-injector can be used if there are no improvement after five to ten minutes
5. Monitor the level of response, breathing and pulse until medical help arrives

Don'ts

1. Leave the elderly unattended, as they may get worse quickly
2. Delay the administration of adrenaline, as it is the mainstay of emergency treatment in anaphylaxis

BURNS





Background

Burns and scalds are damage to the skin and tissue caused by heat. The severity depends on depth, type of burn and site of involvement. The outcome is correlated with age, extent of burn and co-existing inhalation injury.

Majority of burn injuries among elderly occur in a domestic setting, particularly in the kitchen and bathroom. Flame and scald injuries are the most common cause of major burns in elderly. Direct contact with hot surfaces (e.g., stoves), electrical and chemical burns are less frequent.

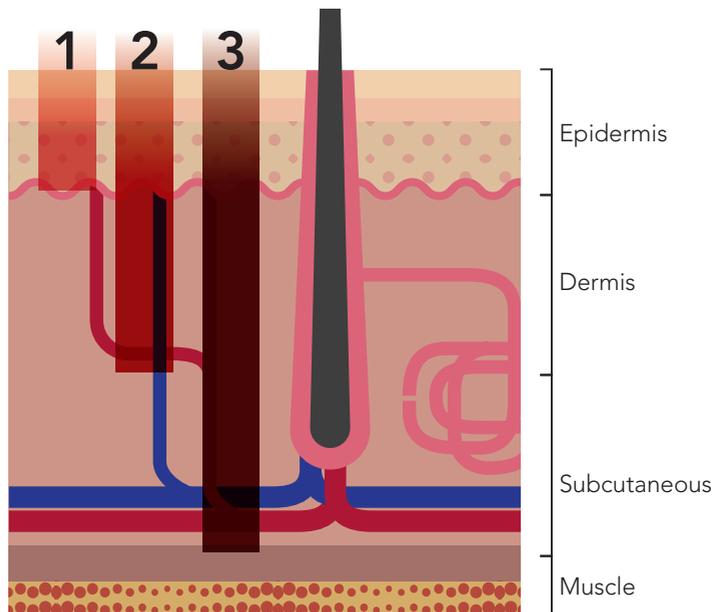
Different types of burn and causes:

Type of Burn	Common causes
Dry burn	Fire, Hot objects
Scald	Steam, Hot liquid
Chemical burn	Various chemicals used in domestic and industrial setting
Electrical burn	High-voltage and low-voltage currents
Radiation burn	Sunburn, sun lamp



Symptoms and signs

- Assessment For Severe Burn
- The severity of a burn can be classified by its area and depth.



Classification of burn

Superficial burn (First degree burn)

Depth Burn affects only the outermost layer of skin

- Symptoms
- Redness
 - Swelling
 - Mild pain



Partial-thickness burn (Second degree burn)

Depth Affecting deeper layers of skin

- Symptoms
- Redness
 - Swelling
 - Extreme pain
 - Blisters



Full-thickness burn (Third degree burn)

Depth Affecting all layers of the skin, may even damage underlying fat, muscle and blood vessels

- Symptoms
- The skin may appear waxy or charred
 - Very little to no pain



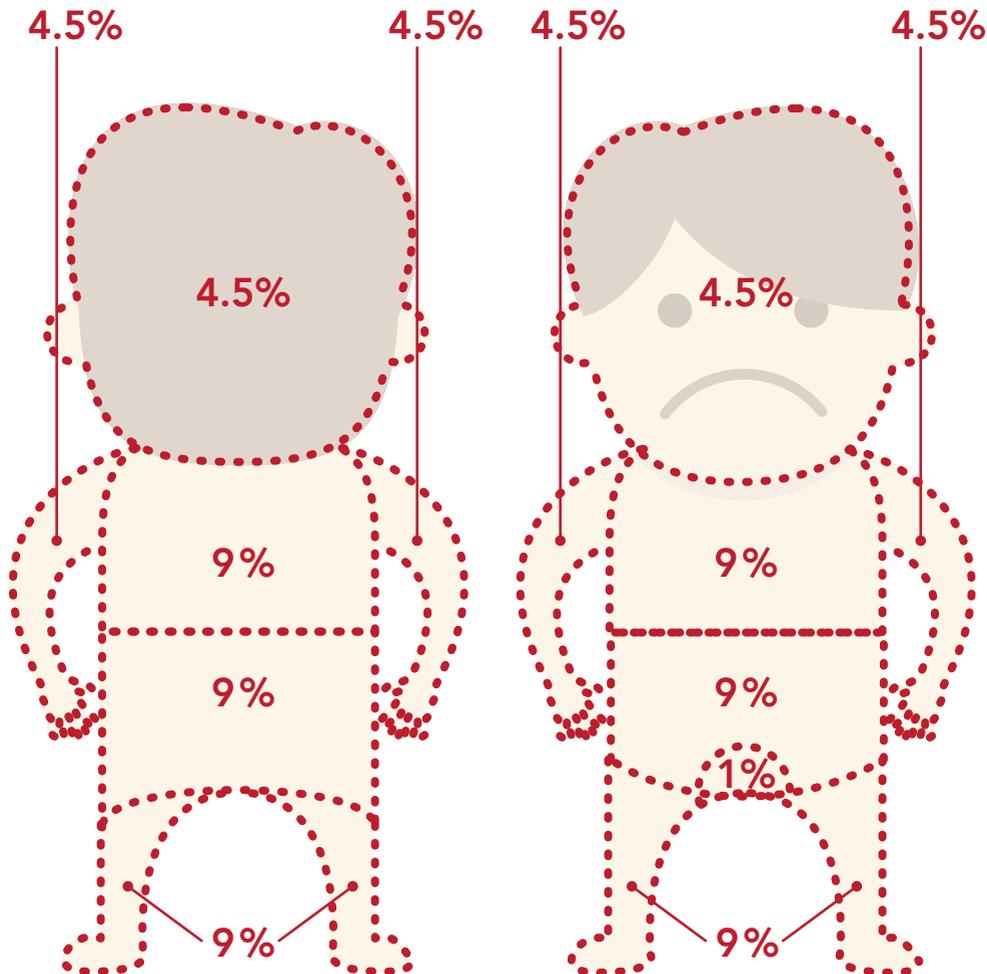
Area

Rule of Nines

The surface area of an adult body can be divided into 9% sections. 9% each for the head and each upper limb. 18% each for the front of the body, the back of the body and each lower limb.

Rule of Palm

The area of the patient's palm roughly equals 1% of their total body surface area



!! CAUTION !!

- ! Any full-thickness burns !
- ! Any burn affecting the mouth and throat !
- ! All burns involving the face, hands, feet or genital area !
- ! All partial-thickness larger than the area of patient's hand !
- ! Any burns caused by chemicals, electricity or explosions !



As a first aider

- Ensure the safety for elderly and yourself
- Recognize red flags symptoms above and seek emergency medical help
- Relieve symptoms

Do's

1. Seek emergency medical help. Call 999 if burn:
 - a / involves airway
 - b / involves hands, face, feet or genitals
 - c / is deep or larger than a 10% surface area
 - d / a full-thickness burn
 - e / a burn caused by chemicals, explosions or electricity
 - f / or whenever you are in doubt
2. Stop the burning by removing the person from the source of heat
3. Cool the area with running water for at least 10 minutes, or until the pain is reduced
4. Remove any clothing or jewelry that may cause constrictions if the affected area swells
5. Cover the area loosely with clean cling film to protect the area

Don'ts

1. Apply lotions, ointment, oily dressings, soy sauce or toothpaste to the burn area
2. Touch the injured areas or puncture any blisters
3. Remove anything sticking to the burn area
4. Over-cool the patient
5. Apply ice or ice water to any burn area
6. Use towels, cotton wool, blankets or adhesive dressings directly on the burn
7. Try to clean a severe burn wound



Remarks

Clothing on Fire

- Stop the casualty running as any movement may fan the flames
- Drop the casualty on the ground. If available, use a fire blanket to wrap the casualty tightly
- Roll the casualty on the ground to smother all flames

Chemical Burn

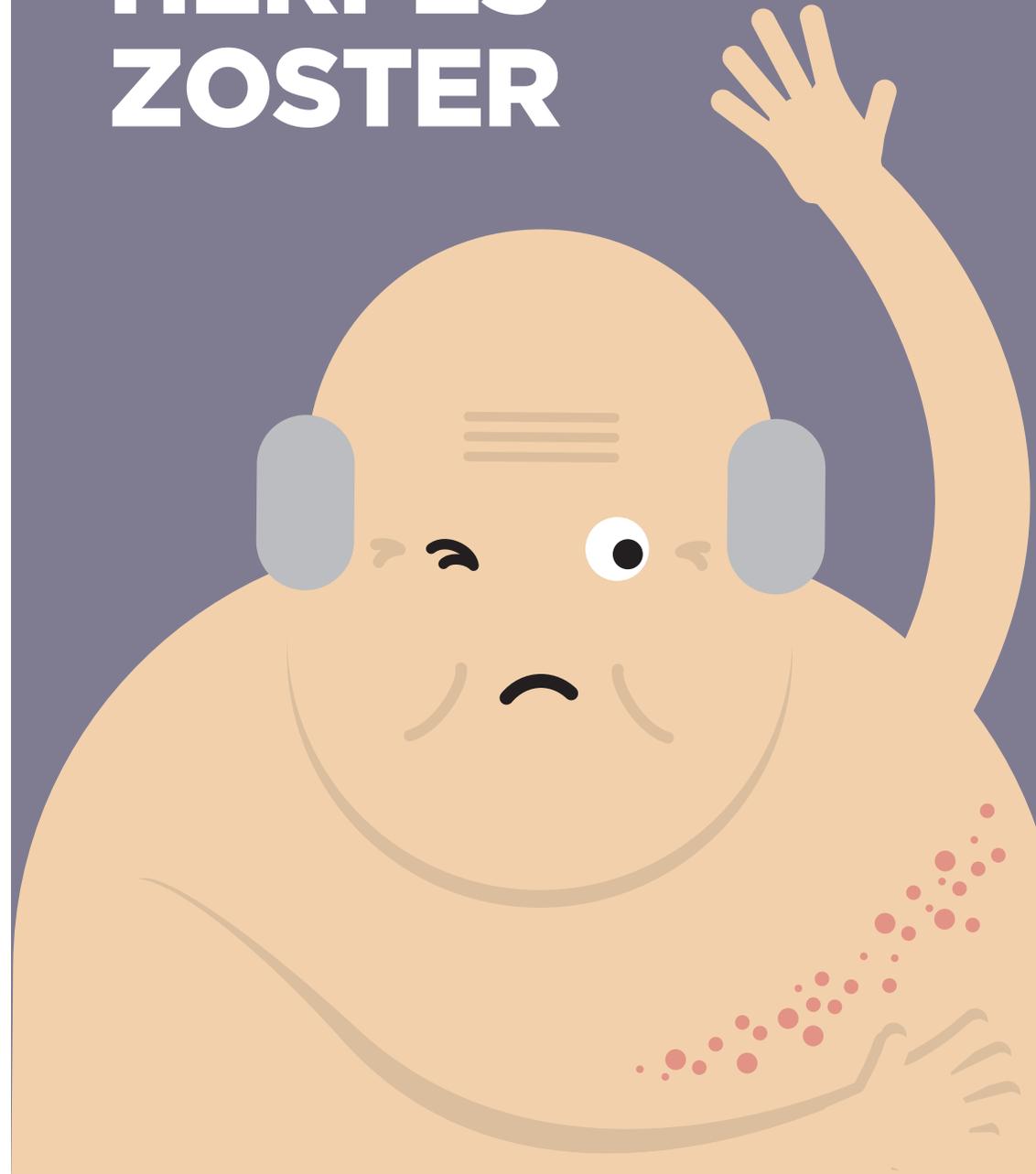
- Protect yourself with plastic gloves when helping the casualty
- If possible, brush off any chemicals using glove hands and ask the casualty to remove any contaminated clothing
 - Flush the area with large amount of water
- Be careful not to spread chemical
- Arrange transport to hospital

Electrical Burn

- Turn off the power source
- Make sure the casualty is no longer in contact with the power source
- If in doubt, do not approach
- Care for any life-threatening conditions and treat any burn

In any situation, ensure your own safety first.

HERPES ZOSTER



Herpes Zoster



Background

This condition is caused by a virus called herpes zoster virus. After an episode of chickenpox, the virus will remain inactive in the nerve cells. When the immune system becomes weak, the virus reactivates and causes the red rash in the same dermatome.



Symptoms and signs

- Reddening of skin with vesicles along one dermatome
- Common in weak elders with poor immunity.



As a first aider

Do's

- Seek medical help for anti-viral medication as soon as possible
- Over the counter medication like paracetamol may be able to relieve mild pain
- After the acute episode has resolved, the affected area may be painful. Seek medical advice to relieve the neuropathic pain caused by the virus

Don'ts

- Avoid contact with the vesicles to prevent infection
- Advise the patient not to rub the affected area and contact pregnant woman and young children

TOXICOLOGY



Drug Overdose



Background

Elderly is prone to drug poisoning with a number of risk factors. As elderly people are more likely to suffer from chronic illnesses such as hypertension and diabetes, they may need to take multiple medications prescribed for a long period of time. In the process of ageing, their abilities of metabolizing and eliminating drugs may decrease, which can increase the chance of developing side effects of medications. Polypharmacy, defined as the use of 5 or more prescription medications at the same time, is common amongst elderly in Hong Kong (42.5%) and increases the risks of adverse drug reactions and undesirable interactions between drugs. In addition, memory loss and dementia are also the risk factors for drug overdose in elderly.



Symptoms and signs

- Drowsiness, nausea and/or vomiting
- Burning pain in the digestive tract
- Odors on breath
- Local irritation (e.g. skin, eyes)
- specific toxidrome

!! CAUTION !!

- ! Difficulty breathing
- ! Sudden collapse
- ! Change in consciousness



As a first aider

- Recognize the symptoms and signs of drug overdose
- Look for environmental clues for suspected drug overdose
- Seek medical help immediately

Do's

1. If the elderly is unconscious:

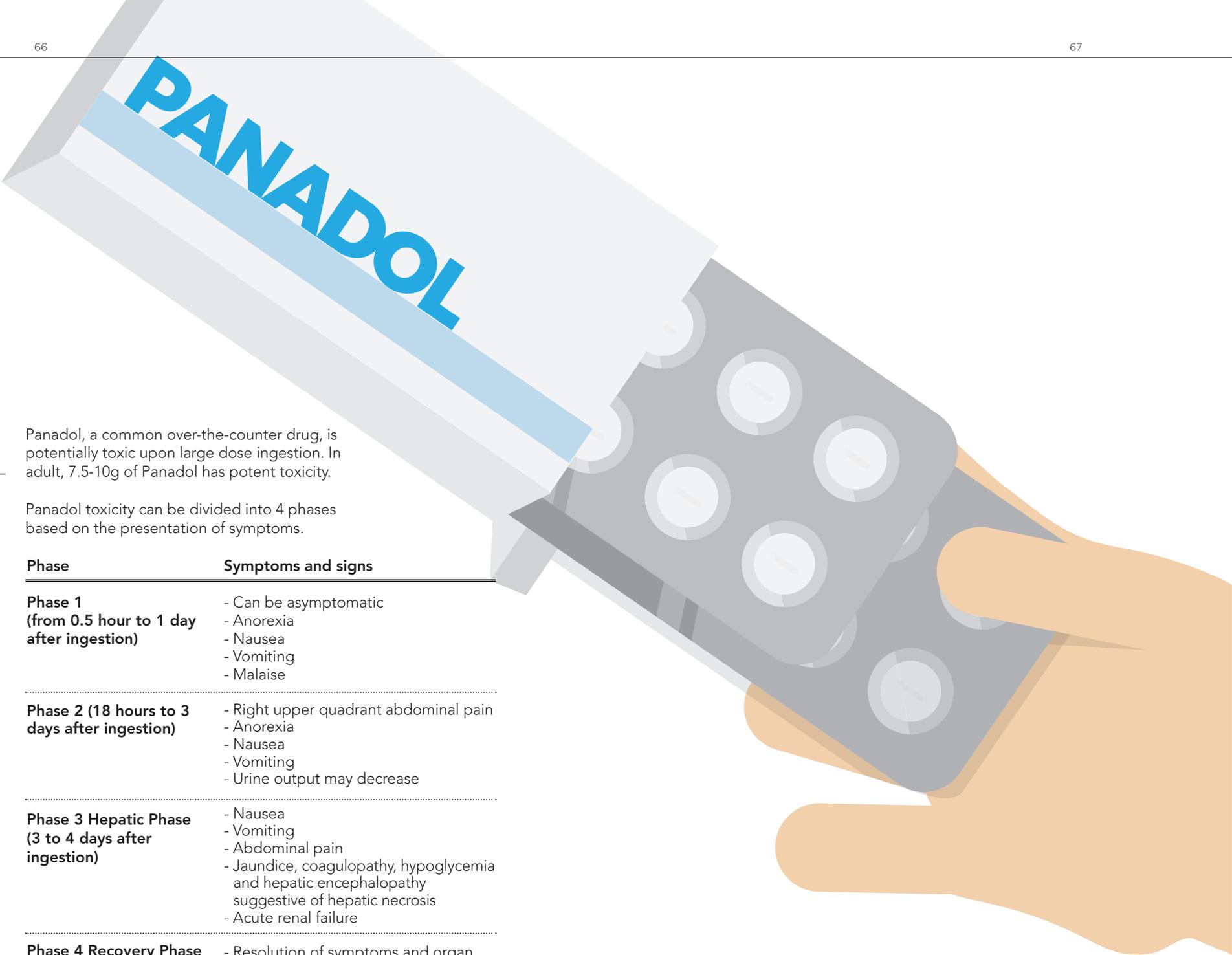
- a / Call 999 IMMEDIATELY, inform the operator that there is a suspected poisoning
- b / Maintain an open airway
- c / Monitor the vital signs (respiratory rate, pulse rate, consciousness)
- d / Perform CPR if necessary

2. If the elderly is conscious and stable:

- a / Call 999 IMMEDIATELY, inform the operator that there is a suspected poisoning
- b / Help the elderly into a comfortable position (Lying the elderly on his left side can reduce initial absorption of toxin into the intestine)
- c / Assess the nature of poisoning
- d / Suicide attempt or unintentional poisoning?
- e / Type and the amount of drugs/poison taken?
- f / Time of dosing?
- g / Look for clues (e.g. opened drug container) in the environment.
- h / Continue to monitor the elderly's vital signs (respiratory rate, pulse rate, consciousness)
- i / Keep samples of the vomitus and other clues (e.g. drug container)

Don'ts

1. Attempt to induce vomiting
2. Eat wild plants or fungus collected from the countryside



PANADOL



Remarks

Panadol, a common over-the-counter drug, is potentially toxic upon large dose ingestion. In adult, 7.5-10g of Panadol has potent toxicity.

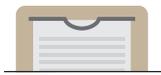
Panadol toxicity can be divided into 4 phases based on the presentation of symptoms.

Phase	Symptoms and signs
Phase 1 (from 0.5 hour to 1 day after ingestion)	<ul style="list-style-type: none"> - Can be asymptomatic - Anorexia - Nausea - Vomiting - Malaise
Phase 2 (18 hours to 3 days after ingestion)	<ul style="list-style-type: none"> - Right upper quadrant abdominal pain - Anorexia - Nausea - Vomiting - Urine output may decrease
Phase 3 Hepatic Phase (3 to 4 days after ingestion)	<ul style="list-style-type: none"> - Nausea - Vomiting - Abdominal pain - Jaundice, coagulopathy, hypoglycemia and hepatic encephalopathy suggestive of hepatic necrosis - Acute renal failure
Phase 4 Recovery Phase (4 days to 3 weeks after ingestion)	<ul style="list-style-type: none"> - Resolution of symptoms and organ failure

Common and Harmful Overdose: Ingested Poisons

Ingested poisons include herbal medicine, wild plants, mushroom and fish (ciguatera).

Herbal Medicine



Background

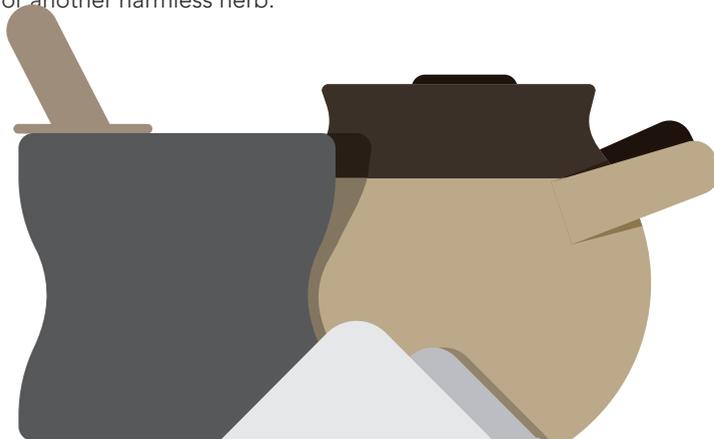
It is well documented that certain herbal medicines are highly toxic. Therefore, you should always follow your Traditional Chinese Medicine (TCM) practitioner's advice in the preparation and consumption of these herbs.

Poisoning by Chinese medicine is usually caused by one of the three reasons - Misuse, Poor Quality Control and Erroneous substitution.

Misuse - This is usually caused by overdose, excessive duration of use and improper decoction. Decoction is a MUST for aconitine containing herbs such as 草烏, 川烏. The process removes a significant amount of toxicity.

Poor Quality Control - Impurities in Chinese herbs can account for unexpected poisoning. In some cases, Western medicine is illegally added into Chinese medicine to enhance their effect.

Erroneous substitution - Some herbs have confusing names or appearances, it is not uncommon for a toxic herb to be substituted for another harmless herb.



Here are some common examples:

Different Chinese herbal medicines with the same name should not substitute each other.

Aristolochiaceae
Radix Aristolochiae Fangchi *
(Prohibition of sale in Hong Kong since 1 June 2004)



VS

Menispermaceae
Radix Stephaniae Tetrandrae *
(Chinese herbal medicine listed in Schedule 2 of the Chinese Medicine Ordinance)



Herbs with similar physical appearance should be differentiated carefully.

Solanaceae
Flos Daturae Metelis *
(Chinese herbal medicine listed in Schedule 1 of the Chinese Medicine Ordinance)



VS

Bignoniaceae
Flos Campsis *
(Chinese herbal medicine listed in Schedule 2 of the Chinese Medicine Ordinance)



* Images from Chinese Medicine Division, Department of Health, Government of the HKSAR

Herbal Medicine

Some common herbs with potent toxicity:

Unprocessed Radix Aconiti
Kusnezoffii



Flos Rhododendri Mollis *



Arsenic Trioxide *



Mylabris



* Images from Chinese Medicine Division, Department of Health, Government of the HKSAR

Unprocessed Radix Aconiti



Unprocessed Semen Strychni *



Cinnabaris *
(Cinnabaris in lumps)



Flos Daturae Metelis *

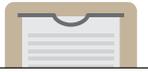


Symptoms and signs

- Nausea, vomiting, diarrhea, abdominal pain
- Chest discomfort, fast or irregular heartbeat
- Shortness of breath
- Headache, dizziness, numbness, blurred vision
- Depends on the nature of toxicity

Herb	Active Compound	Toxicities
Processed Radix Aconiti	Aconitine alkaloids	(FAST ACTING) - Numbness, - Burning sensation in mouth & GI tract, - Low blood pressure, chest pain, - Nausea, vomiting, diarrhea, - Shortness of breath, headache, sweating
Processed Radix Aconiti Kusnezoffii		
Processed Radix Aconiti Lateralis		
Radix Aristolochiae Fangchi	Aristolochic Acid	- Cancer of the urinary tract, - Kidney damage
Herba Aristolochiae Mollissimae		
Rhizoma Atractylodis	Scopolamine and Atropine impurities	- Dry skin, dry mouth, - Blurry vision, - Hallucination, - Rapid heartbeat
Semen Strychni	Strychnine, Brucine	- Muscle spasm, convulsion, - Nausea, vomiting, - Loss of consciousness
Folium Sennae	Antraquinone	- Abdominal pain, - Nausea, vomiting, diarrhea, - GI tract bleeding, kidney damage
Various powdered herbs	Prednisolone	- Cushingoid features

Mushroom



Background

Some mushroom have potent toxicity, which can be categorized as follows:

Mushroom types:

Lactarius torminosus
(photo by Tocekas via Wikipedia)



Russula emetica
(photo by Eric Smith via Mushroom Observer)



Coprinus comatus
(photo by Glen van Niekerk (primordius) via Mushroom Observer)



Pulveroboletus ravenelii
(photo by Ron Pastorino (Ronpast) via Mushroom Observer)



Body systems involved:
Gastrointestinal system

Toxicities:
Nausea, vomiting, diarrhea, and abdominal cramps

Mushroom types:
Gyromitra esculenta
(photo by Toffel via Wikipedia)



Body systems involved:
Hematological system

Toxicities:
Jaundice, hematuria, hemolysis

Mushroom types:

Amanita pantherina
(photo by George Chernilevsk via Wikipedia)



Amanita solitaria
(photo by Luridiformis via Wikipedia)



Body systems involved:
Nervous system

Toxicities:
Confusion

Mushroom types:

Amanita verna
(photo by Pieria via Wikipedia)



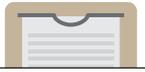
Amanita virosa
(photo by Ben DeRoy via Wikipedia)



Body systems involved:
Liver

Toxicities:
Jaundice

Ciguatera Fish Poisoning



Background

Ciguatera is one of the commonest neurotoxins causing food poisoning in Hong Kong.

The common coral fish associated with ciguatera fish poisoning include:

Black Fin Red Snapper *



Tiger Grouper *



Lyretail *



Areolated Coral Grouper *



Morey Eel *



Leopard Coral Grouper *



* Images from Centre for Food Safety, Government of the HKSAR



Symptoms and signs

Symptoms of ciguatera can arise quickly, shortest at 30 minutes, after ingestion of ciguateric fish:

- Vomiting
- Diarrhea
- Nausea
- Abdominal pain
- Tingling of lips, hands and feet,
- Skin itching
- Change in temperature perception
- Fatigue
- Muscle and joint pain



As a first aider

- Recognize the symptoms and signs of drug poisoning
- Seek medical help immediately

Do's

1. If the elderly is unconscious:

- a / Call 999 IMMEDIATELY, inform the operator that there is a suspected poisoning
- b / Maintain an open airway
- c / Monitor the vital signs (respiratory rate, pulse rate, consciousness)
- d / Perform CPR if necessary

2. If the elderly is conscious and stable:

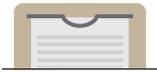
- a / Call 999 IMMEDIATELY, inform the operator that there is a suspected poisoning
- b / Help the elderly into a comfortable position (Lying the elderly on his left side can reduce initial absorption of toxin into the intestine)
- c / Assess the nature of poisoning
- d / Suicide attempt or unintentional poisoning?
- e / Type and the amount of drugs/poison taken?
- f / Time of dosing?
- a / Look for clues (e.g. opened drug container) in the environment.
- g / Continue to monitor the elderly's vital signs (respiratory rate, pulse rate, consciousness)
- h / Keep samples of the vomitus and other clues (e.g. drug container)

Don'ts

1. Attempt to induce vomiting
2. Eat wild plants or fungus collected from the countryside

Common and Harmful Overdose: Chemical Poisoning

Household Cleaners and Corrosives



Background

In Hong Kong, approximately 100 cases of household product poisoning are reported every year, and common accidental poisoning happens with the swallowing or inhaling of household cleaners, such as bleach and stainless steel cleaner.



Symptoms and signs

- Burning sensation in mouth
- Pain in throat and stomach
- Swelling of throat
- Vomiting
- Blood in stools



As a first aider

- Recognize the symptoms and signs of possible poisoning
- Seek medical help and call 999 immediately
- Identify possible agent of poisoning

Do's

1. Seek medical help and call 999 immediately
2. **If the elderly is still conscious:**
 - a / Keep the elderly calm
 - b / Help him or her in a comfortable position

Don'ts

1. Attempt to induce vomiting
2. Give drinks or food to the elderly

Inhaled Poisoning



Background

Common inhaled poisons include toxic fumes (e.g. chlorine), gas canisters (e.g. bug sprays), and carbon monoxide



Symptoms and signs

- | | |
|-------------------|-----------------------|
| - Coughing | - Labored respiration |
| - Chest tightness | - Dyspnea |
- In the case of carbon monoxide poisoning, the following may occur:
- | | |
|-------------------|-------------------------|
| - Headache | - Dizziness |
| - Tiredness | - Nausea |
| - Blurred vision | - Impaired coordination |
| - Unconsciousness | |



As a first aider

- Assess the possible danger of the environment and apply protective measures on yourself
- Recognize the symptoms and signs of inhalation poisoning
- Seek help and call 999 immediately
- Inform others of the incident

Do's

1. Ask for help
2. Ensure your own safety before any attempt to treat the elderly
3. Maintain good ventilation of environment
4. If safe, provide basic life support measures

Don'ts

1. Enter an affected premises without assessing the danger
2. Perform mouth to mouth rescue breath



Remarks

Carbon monoxide poisoning is encountered in suicidal attempts by charcoal burning. Carbon monoxide is a non-irritating, colourless, tasteless and odourless gas. Poisoning can be recognized sleepiness, weakness, headache and characteristic cherry-red skin. It is life-threatening, victims must be sent to a hospital as soon as possible.

Snakebite and Envenomations

Snakebite



Background

Bamboo snake is the most common cause of venomous snakebites in Hong Kong. A bite from any type of poisonous snake is always considered a medical emergency. Bites from non-venomous snakes can sometimes result in severe allergic reactions.



Symptoms and signs

- Paired puncture marks - the bite may be painless
- Redness, swelling, warmth and pain at the bite site
- Nausea and vomiting
- Disturbed vision
- Increased salivation and sweating
- Difficulty breathing



As a first aider

- Apply first-aid and seek immediate medical help
- Poisonous snakes are difficult to identify - some nonpoisonous snakes have markings very similar to venomous ones
- Leave all snakes alone and always assume that a snake is venomous

Do's

1. Call 999 IMMEDIATELY. Always have snakebites treated by a doctor even if the snake is known to be non-venomous
2. **If the elderly is conscious:**
 - a / Tell the elderly to remain still and calm
 - b / Lie the elderly down, raise the head and shoulders
Immobilize the bitten area and keep it below than the level of the heart
 - c / Wash the bite with soap and water as soon as possible
 - d / Apply a pressure bandage at the site of the bite if there is no pain. Do not remove clothing from around the site since this can speed up the absorption of the venom
 - e / Apply another pressure bandage to extend from the bite as far up the limb as possible
 - f / Mark the site of the bite. Immobilize the limb by securing it to the other leg with broad- and narrow- fold bandages
 - g / Check the circulation after bandaging. Make the bandage loose enough for a finger to slip underneath
 - h / Monitor and record vital signs while waiting for help to arrive
3. **If the elderly is unconscious or loses consciousness:**
 - a / Open the airway and check breathing
 - b / Perform CPR if necessary

Don'ts

1. Apply a tourniquet or tie a bandage too tightly. If a bandage is too tight, it can cut off blood supply completely and lead to permanent disability.
2. Slash the wound with a knife or suck out the venom with your mouth. Any incisions on or around the bite wound may introduce bacteria into the body, causing infection.
3. Try to catch the snake for identification



Insect Sting



Background

Insect stings are usually not dangerous. However, the venom from insect can cause anaphylaxis which is a medical emergency. (Refer to Chapter 11 Allergy & Anaphylaxis for details)

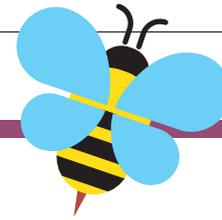


Symptoms and signs

- Redness, swelling, heat and pain around the area

!! CAUTION !!

! Hives, weals and body redness!
! Swelling of face and tongue !
! Tightness in throat, hoarse of !
voice
! Shortness of breath, noisy !
breathing, wheeze, persistent
cough
! Shock !
! Loss of consciousness !



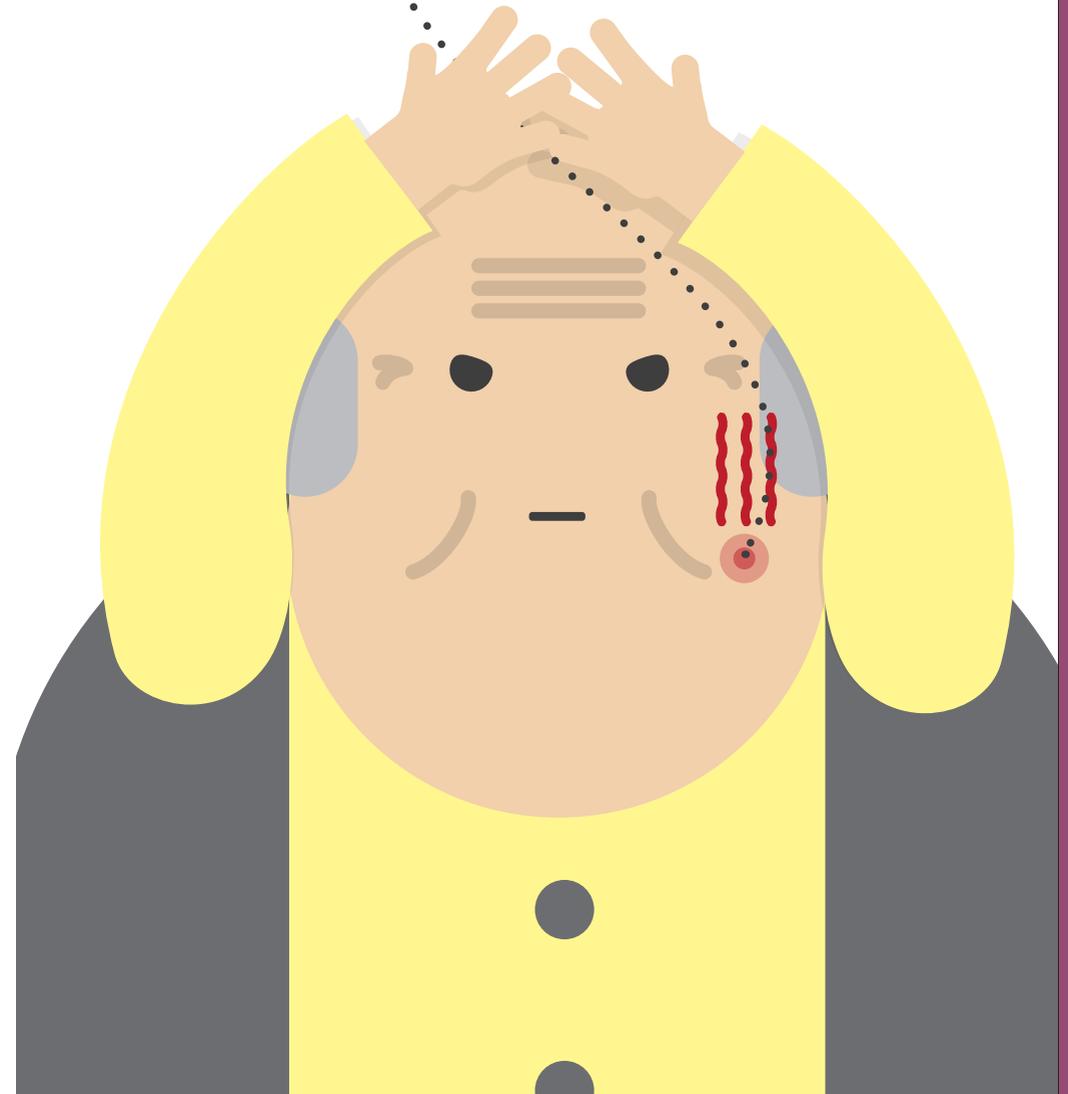
As a first aider

Do's

1. Seek emergency medicine help if the above red flags are present
2. Raise the affected part
3. Apply an ice pack for 10 minutes to minimize swelling
4. Monitor the vital signs and watch for signs of an allergic reaction bee stinger

Don'ts

1. Cut or suck the sting wound



PAIN MANAGEMENT



Common Pain Relief Methods

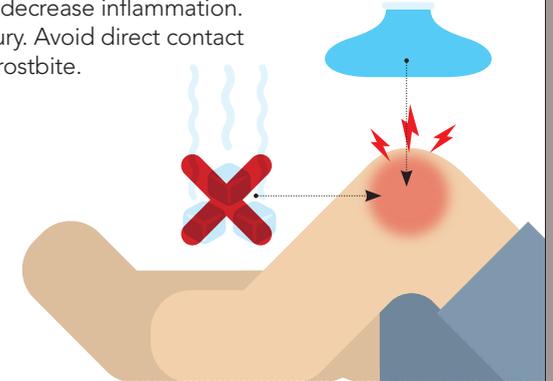
Medication Simple analgesics can be used to relieve pain.

a / Paracetamol should be started with dose of 500-1000mg (1-2 tablets). If instructed by doctor, higher dose can be taken.

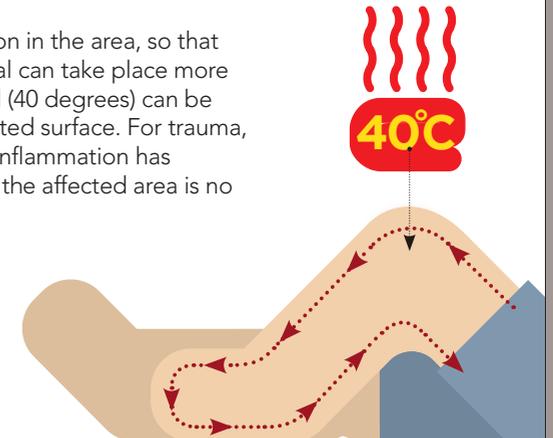
b / Alternatively, NSAIDs such as ibuprofen can be used. However, some NSAIDs may cause stomach discomfort and bleeding. It should be avoided for people who have bleeding disorders or gastrointestinal symptoms.



Cold pad Cold pad is used to decrease inflammation. Used first during injury. Avoid direct contact with ice to prevent frostbite.

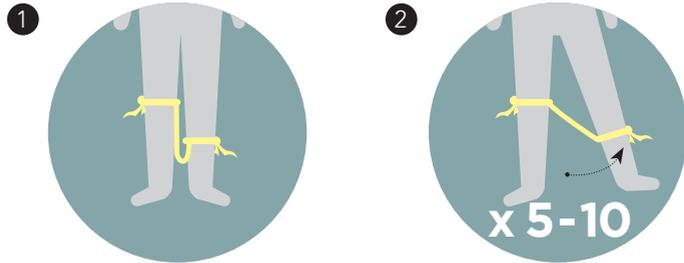


Heat pad To increase circulation in the area, so that tissue repair and heal can take place more efficiently. Hot towel (40 degrees) can be applied on the affected surface. For trauma, it is best used after inflammation has subsided (use when the affected area is no longer hot).

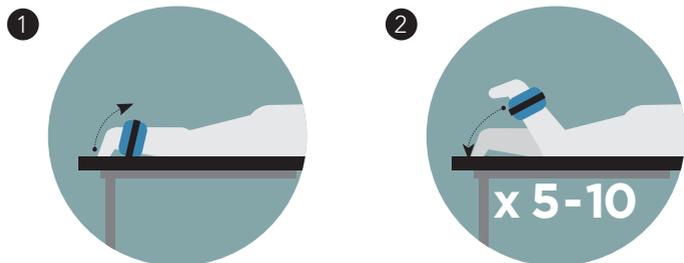


Stretching

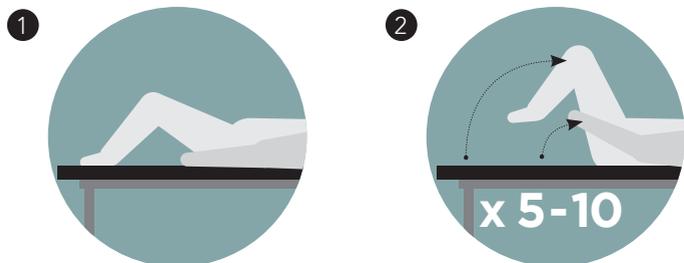
With the help of an elastic band anchoring the knee of one leg and mid shin, separate the two legs against resistance to train the muscle of the leg.



Lying down with your face down, slowly raise your leg up as shown in the picture above slowly. After 5-10 cycles, switch side and raise the leg of the opposite leg.



Sitting with your face facing upward, slowly flex your thigh up to your chest as shown above. Then slowly return to the original position. Repeat for 5-10 times according to your physique.



Aerobic exercises

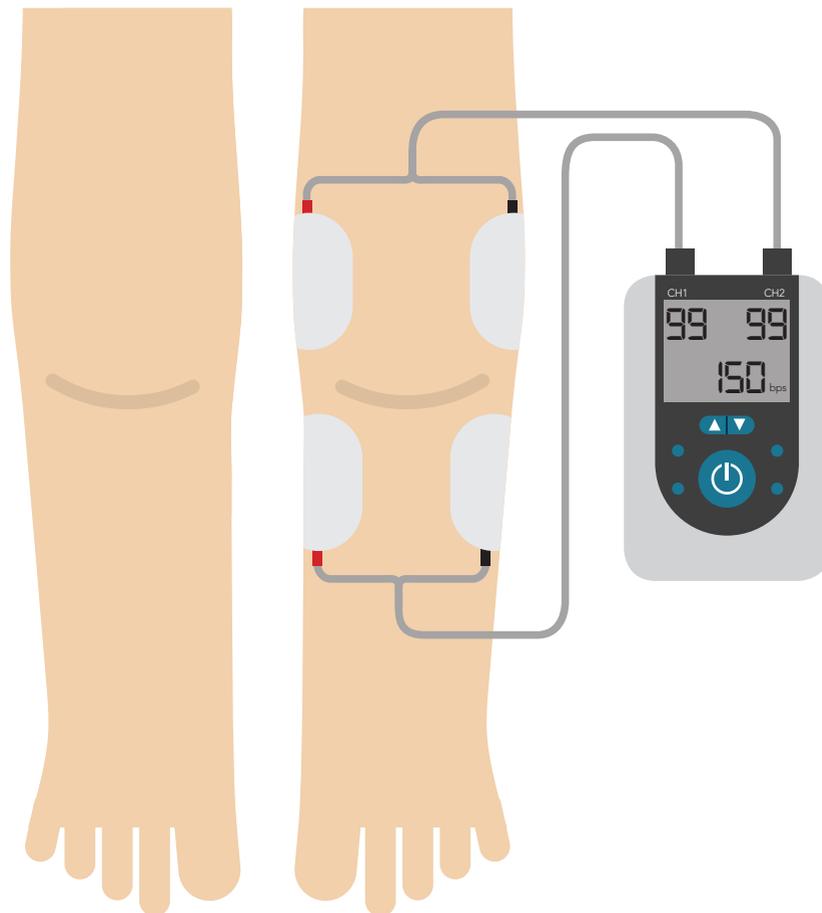
Examples include swimming and fast walking. Aerobic exercise is the best for relieving chronic pain.

Resistance exercises

Resistance exercises increase muscle strength, which can help stabilise joints. This can be good for joint pain (consult physiotherapist for exercises that can prevent further damage of joint).

Transcutaneous electrical nerve stimulation (TENS)

By stimulating the nerve using electric current, pain signals in your brain can be modulated or suppressed to relieve pain.



BANDAGING AND WOUND DRESSING



Head Bandage

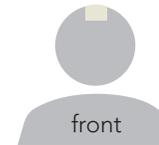
Materials



Triangular Bandage X 1
Dressing X 1

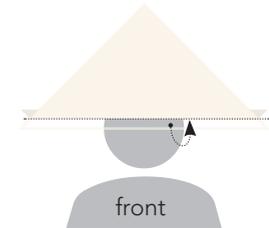
Steps

1



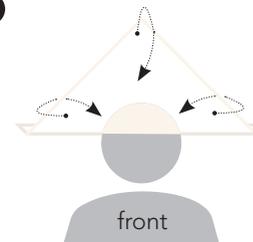
Apply a dressing to the wound.

2

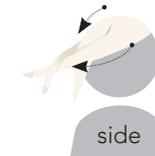


Fold the base (longest edge) of the bandage inwards, and put it at the centre of the forehead, above the eyebrows.

3



Cross the ends of the bandage behind the head.

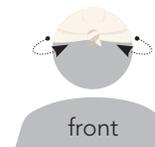


side



back

4



Take the ends over the forehead and tie them.

5



Pull and tuck the bandage behind the head.

Arm Sling

Materials



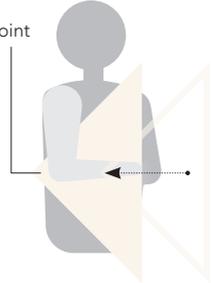
Triangular Bandage X 1

Steps

1



Point



2



Ask the victim to support his injured arm. Place the triangular bandage. The point of the bandage should be at the elbow of the injured side. Slide the upper end of the bandage under the injured arm, and wrap around the neck to the shoulder of the injured side.

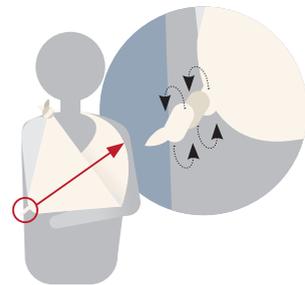
Bring the lower end of the bandage over the forearm to the shoulder of the injured side.

3



Tie the ends with a knot at the collar bone of the injured side, and tuck the ends under the knot.

4



Twist the point and tuck it above his elbow.

5



Final position

Elevation Bandage

Materials



Triangular Bandage X 1

Steps

1



Ask the victim to support his injured arm. The fingers of the injured side should be on the opposite shoulder.

2



Place the triangular bandage. The point of the bandage should be at the elbow of the injured side, and the edge along the injured arm.

3



Ask the victim to stop supporting the arm. Tuck the base of the bandage under the injured arm.

4



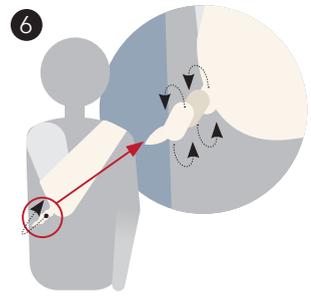
Bring the lower end of the bandage up across his back, meeting the other end at his shoulder.

5



Tie the ends with a knot at the collar bone of the opposite side, and tuck the ends under the knot.

6



Twist the point and tuck it above his elbow.

Elbow Bandage

Materials

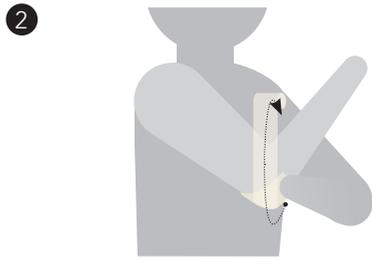


2-inch gauze roll bandage X 1
Dressing x 1

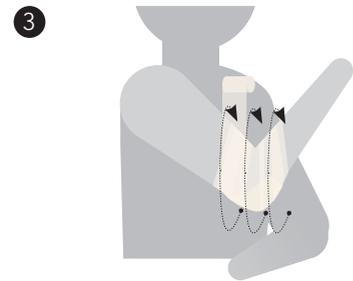
Steps



Elevate the wound above heart level.
Cover it with a dressing.



Using a 2-inch gauze roll bandage, wrap it
around the elbow from the level of dressing,
from inside to outside of the limb



Wrap around the elbow at level slightly
below and above the wound alternately



Fasten the end of the bandage with pins
or tape

Forearm Bandage

Materials



2-inch gauze roll bandage X 1
Dressing x 1

Steps



Elevate the wound above heart level.
Cover it with a dressing.



Wrap with a 2-inch gauze roll bandage.
Wrap twice at the bottom end of the
wound from inside to outside of the limb.



Wrap continuously in spiral turns up
towards the elbow covering the dressing,
rolling over 2/3 of previous turn each
time.



Wrap until the entire dressing is covered.
Fasten the bandage with pins or tape.

Wrist Bandage

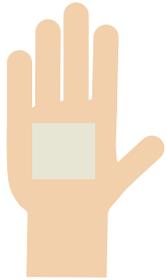
Materials



2-inch gauze roll bandage X 1
Dressing x 1

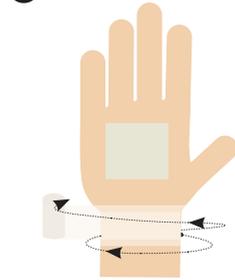
Steps

1



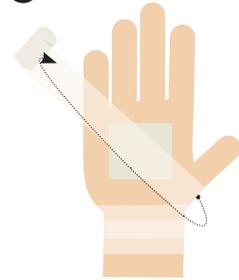
Elevate the wound above heart level. Cover it with a dressing.

2



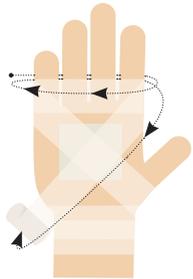
Using a 2-inch gauze roll bandage, wrap it around the wrist twice from inside to outside of the limb.

3



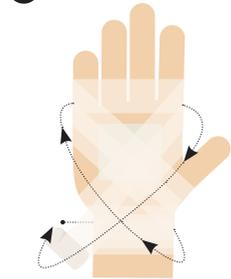
Wrap the bandage from the inside of the wrist, diagonally across the back of hand up to the nail of little finger

4



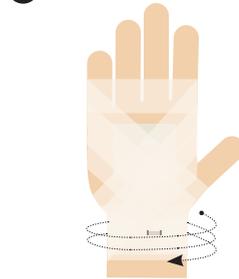
Straight across underneath the fingers, and diagonally back across the back of the hand to the outside of the wrist.

5



Pass the bandage under their wrist and repeat the diagonal over the back of the hand like a figure-of-eight, each time covering 2/3 of previous layer.

6



Once the entire hand is covered, wrap straight around the wrist twice.

Hand Bandage

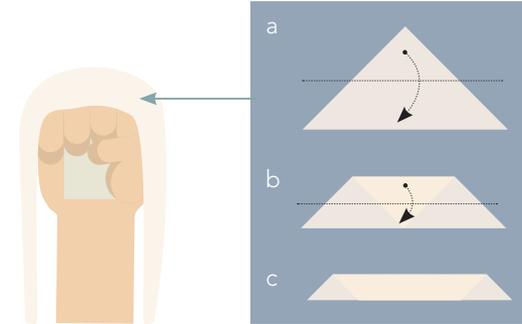
Materials



Triangular Bandage X 1
Dressing X 1

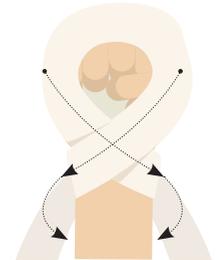
Steps

1



For severe bleeding of the palm, elevate the wound above heart level and ask the elderly to hold the dressing in a fist to cover the wound. Using a partially unfolded triangular bandage, place the center of bandage against the top of the fist.

2



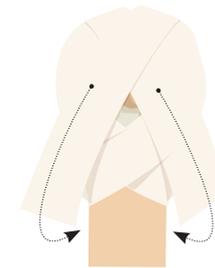
Cross the two ends of bandage at the wrist.

3



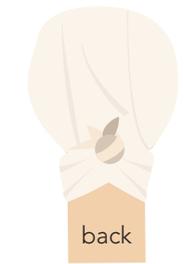
Wrap each end of bandage around the wrist to the back of hand and cover 3 fingers for each end before reaching back to the wrist.

4



After crossing the two ends over the wrist again.

5



Wrap around the wrist and tie on the back of hand.



These books are funded by the grant from the 'We Are with You' project. This grant allowed us to convene a series of basic life support workshops, exhibitions and talks to the public, and these two books reflect our vision to serve the community, especially the old and the underprivileged, with our knowledge and expertise in Emergency Medicine. We would like to acknowledge and thank all the students of the Emergency Medicine Interest Group for their devotion to serve others and making these two books a success.

KL Fan
LP Leung

