

Instructions

1. Print these puzzles out and cut them up.
2. Instructors then need to muddle up the puzzle pieces.
3. In groups of 2-4, candidates put the puzzles back together.
4. Share back to the whole group and make any adjustments where needed.

Note: these puzzles would be great to use as a revision task or to develop further understanding.



Scoop stretchers require less patient movement and are more comfortable than rigid backboards, but all rigid handling devices can cause harm, so their use should be strictly limited to moving the patient. As soon as the movement is complete, the patient should be taken off the scoop stretcher.

In a life-threatening emergency where time or conditions do not permit coordinated patient handling, ankle/wrist/blanket drags are acceptable methods of evacuating a patient.

If significant neck or spinal injury is suspected, call an ambulance early. In all resuscitations, moving the patient to safety and stabilising the airway, breathing and circulation take priority over maintaining cervical spine precautions.

Unconscious patient (or patient unable to maintain their own head position).

Provide manual in-line stabilisation of the cervical spine. While the patient is being moved or resuscitated, hold the patient's head in-line with the neck and torso in a neutral position.

Manual in-line stabilisation of the neck can be performed while the patient is on their back, or on their side. Once the movement is completed, use padding (a 2cm thick folded towel if they are supine) under their head to keep their neck in a comfortable position.



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Blood vessel in the brain suddenly becomes blocked or a rupture of a blood vessel causes bleeding in the brain.

- F Face:** Ask them to smile. Is their face drooping on one side?
- A Arms:** Can they raise both arms?
- S Speech:** Is their speech jumbled, slurred or absent?
- T Time:** If so, call 111 immediately.

- Call 111 immediately. Do not wait to see if symptoms get worse. Have the patient lie down.
- Speak slowly and clearly if they are having trouble understanding you. If vomiting occurs, place the patient on their side, open and clear their airway and monitor their breathing.
- If they become unresponsive, but are breathing normally, place them in recovery position.
- If a suitably trained first responder is available, have them check a blood glucose level.
- If the patient becomes unresponsive, and is not breathing normally, begin CPR.

Stroke



Bee stings, wasp stings, and spider bites (including Katipo, redback, and whitetail spiders) are typically minor unless the patient develops anaphylaxis, a severe allergic reaction.

Bluebottle jellyfish stings can cause intense pain, whip-like lines and sores in the areas of skin that have been in contact with the jellyfish tentacles. The pain usually decreases or stops after 1 – 2 hours and you may have joint aches afterwards. You may also have a rash or redness in the area that was stung.

New Zealand's most common jellyfish are nuisances rather than threats.

The bluebottle (Portuguese-man-o-war, *Physalia physalis*) and lion's mane jellyfish are common.

Stings are not serious unless the patient has an allergy to jellyfish stings. Scientific evidence is limited, but the best evidence to date suggests treatment as below.



Can be associated with many types of the injuries a first aider might encounter: motor vehicle crashes, falls, boating accidents, and drownings.

- Unsteadiness.
- Sleepiness.
- Slurred speech.
- Agitation.
- Hallucination.
- Vomiting.
- Airway compromise/difficulty breathing.
- Aspiration (breathing in vomit), shock.
- Loss of consciousness, coma.



If the patient is unconscious and not breathing normally, begin CPR and have a helper call 111.

- If the patient is unresponsive but breathing normally, place them in recovery position with an open airway, call for an ambulance and stay with them.
- If the patient is agitated, aggressive, or violent, move away from the patient, call 111 for police and ambulance, and observe the patient from a safe distance until the scene is made safe.
- If it is safe to do so, ask about the substance taken, when it was taken and in what quantity.
- Do not induce vomiting in any patient.
- Never assume an unresponsive patient is intoxicated.

A patient may appear drunk (or even smell of alcohol), and also have a brain injury, seizure or low blood sugar (diabetes). Call 111 for an ambulance, check for a medical bracelet and recheck DRABCDC frequently.

**Overdose, intoxication,
loss of consciousness**



Hypothermia occurs when the core body temperature drops. Even on a relatively warm day, it is easy to become hypothermic with prolonged immersion or exposure to water and wind.

Children, the elderly and intoxicated patients are at especially high risk of developing hypothermia.

- Feeling cold and shivering.
- Blue-tinged fingertips and lips.
- Followed by weakness, incoordination.
- Confusion.
- Slow/weak pulse.
- Loss of consciousness, and progressively in extreme cases, even death.

Mild hypothermia (no confusion, stable patient):

have them sit or lie down, supported and continuously observed, under a warm shower. If that's not possible, remove wet clothing, dry them thoroughly and wrap them in warm blankets. Call an ambulance for anything more than mild symptoms.

Severe hypothermia (confusion or signs of shock):

Call an ambulance, lie the patient down on a padded/insulated surface, remove all clothing, dry them, and use warm (not hot) packs wrapped in cloth and warm blankets. They will require medical care.

Recheck DRSABCD frequently. If the patient becomes unresponsive and is not breathing normally, they will require CPR.



Heat stroke is when a patient is confused, disoriented, unconscious, has a seizure, or other neurological dysfunction due to a high body temperature, usually over 40 degrees.

Skin changes are unreliable, and patients can be hot and dry (more common) or hot and moist (less common). What matters is that their brain is not working normally anymore.

The risk of death with heat stroke, even with treatment, is over 10%. Infants, the elderly, and intoxicated patients are at greatest risk.

- If you suspect heat stroke, call an ambulance immediately.
- Heat stroke is a form of shock. Get the patient into a cool, shaded location.
- Have the patient lie down under a cool shower, hose or tap if possible.
- Remove any excess clothing.
- Have them drink water only if they are fully alert. Continue cooling them under running water. If running water is not available, keep wetting their bare skin and direct a fan on them.
- Beware over-cooling infants and children.
- The patient may have a seizure or a cardiac arrest, so be prepared to apply the DRSABCD action plan.



Heat exhaustion is generally caused by physical activities in a hot humid environment. Skin changes are unreliable.

- Patients may be hot and sweaty (more common) or hot and dry (less common).
- Pale or flushed skin.
- Rapid but weak pulse.
- They will feel weak and lightheaded.

These are early signs of shock.

- If you suspect heat exhaustion, call an ambulance immediately.
- Have the patient lie down under a cool shower, hose or tap if available.
- Have them undress while helping them maintain their privacy.
- If they are alert, have them drink water.
- Continue cooling them under cool running water.
- If running water is not available, keep wetting their bare skin and direct a fan on them. Recheck DRSABCD frequently.



Some concussions that seem minor at first may result in long-term problems with concentration, mood and performance in all areas of life. The goal is to recognise and manage severe brain injuries quickly, while not overlooking minor brain injuries.

- Loss of consciousness.
- Headache.
- Confusion and disorientation.
- Slurred speech.
- Unsteadiness.
- Blurry vision.
- Nausea or vomiting.

- If the patient has mild symptoms, they should get checked out by their GP, or medical centre within a day.
- If the patient under your care is having symptoms of a serious head injury, they should be referred to their GP, the nearest emergency department, or immediate review by ambulance.
- Any patient who has lost consciousness should not drive home; you should help them make alternate arrangements to be escorted by a competent adult for medical assessment.
- Any patient who has signs of serious head injury as above, must not return to sport until cleared by a doctor.



Fractures

A fracture is a broken bone.

Fractures that are minor can be followed up by the patient's GP within a day. Serious fractures will need urgent medical attention, call 111.

- Fractures that have concerning signs, like bleeding, numbness, colour change or shock.
- Open fractures where the bone has punctured the skin.
- Fracture-dislocations where there is usually severe pain and deformity at a joint.
- Any fracture that is severely painful even without movement.
- Any fracture to the skull, face, spine, pelvis or thigh.

- Keep the patient lying down, or in a position of greatest patient comfort.
- Call an ambulance.
- Watch for signs of shock.
- Control bleeding if required.

If they must be moved for their safety, immobilise the fracture with manual stabilisation, which means multiple people holding the body part in a comfortable stable position while the patient is moved.

Use available resources to splint fractures, such as towels, pillows, and cardboard splints.



A dislocation occurs when a joint is damaged by being forced to move beyond its normal range of motion and a bone moves out place.

- Joint pain.
- Deformity.
- Loss of mobility.
- Pain and discomfort.

- Do not attempt to relocate the dislocation yourself, as outcomes are better if performed by health professionals.
- Support the limb in the position of greatest patient comfort.
- If pain is manageable and the dislocation is not otherwise serious, refer them to the emergency department.
- If the dislocation is serious, with severe pain, a discoloured limb, reduced pulses, or any other associated injuries, call an ambulance.

For comfort, a triangular bandage can be fashioned into a sling. Always check the limb for normal sensation, colour and capillary refill at the fingertips.



- The procedure is explained to the patient.
- The patient's arms are crossed on their chest.
- The first helper assists with manual in-line stabilisation of the head and neck with a hand on either side of the patient's head.
- The second helper is at the patient's side, holding the patient's opposite shoulder and thigh.
- The third helper is beside the second, holding the patient's opposite hip and knee.
- On the first helper's command: "Ready-Brace-Roll", the patient is turned onto their side.
- The person holding the patient's head is always the person that gives the command and controls the movement.
- When the patient is ready to be rolled back the first helper will give the repeat command "Ready-brace-roll", and the patient will be logrolled back into the supine position.

Most patients with cervical fractures will have severe neck pain and unwillingness or inability to move their head. Patients with a spinal cord injury will usually show neurological signs or symptoms: numbness or weakness of the arms, legs, or torso; bowel or bladder problems such as incontinence (loss of control); or difficulty breathing.

If significant neck or spinal injury is suspected, call an ambulance early.

Never force a conscious patient to lie flat on their back if doing so will compromise their airway or breathing. Recovery position is preferable, with a pillow or towel under the head to maintain neutral cervical spine alignment.

Conscious patient: Spinal self-management.

- An awake patient can almost always stabilise their own neck.
- Allow them to self-extricate from a vehicle and walk to safety if they are steady on their feet. Support them if necessary. Let the patient control the movements. Once in a safe location, the patient can lie down on their back, or on their side. If they're on their back, use padding (a 2cm thick folded towel) under their head to keep their neck in a comfortable position.
- Call an ambulance.



- Lean the patient forward and support his or her chest with one hand.
- Give up to five hard blows between the shoulder blades with the heel of your other hand
- Do not be afraid to use significant force.
- Check whether the object has been expelled between each blow.
- If back blows are unsuccessful give five hard chest thrusts.
- Stand behind the patient, with your arms around their chest, hugging them close to your body.
- Place one fist against in the same location as CPR is performed, and hold that fist tightly with your other hand.
- Make a sharp, forceful inward thrust, compressing the chest.

- Distress.
- Gaspings.
- Coughing.
- Wheezing.
- Inability to speak, or placing one's hands over the throat.
- Always consider choking in any patient found unconscious.
- Ask the person, "Are you choking?" If he or she can talk, the obstruction is partial.

- Reassure them that you are there to help them, encourage them to stay calm and try coughing repeatedly, while you send a helper to call an ambulance.
- If a patient can cough or breathe effectively, do not give them water, and do not give back blows.
- If the patient can't cough or breathe, deliver: Back blows and or chest thrusts.



Seizures, or 'fits', typically involve a sudden loss of consciousness, with violent jerking of the arms and legs, strained breathing and abnormal posturing of the torso and neck.

1% of the population have Epilepsy which is a common cause of seizures.

- There is no eye contact or talking.
- Jerking movements usually last less than 30 seconds, followed by complete limpness and a deep sleep-like state.
- Patients usually regain alertness gradually over 5-30 minutes.
- Sometimes seizures can be prolonged, or cause a patient to stop breathing.

If a seizure happens in the water, it is always life-threatening.

The patient will need immediate rescue, and their airway kept out of the water as much as possible.



Heart attacks may cause crushing chest pain radiating to the arm or jaw or be associated with exertion, but in many people, including women and the elderly, there may be only nausea, 'indigestion', shortness of breath, lightheadedness, or sweating/clamminess.

In the first aid setting, there is no reliable way to tell the difference between serious and non-serious chest pain. Call an ambulance for all ongoing chest pain.

Heart attacks can also cause symptoms of palpitations (an irregular heartbeat), fainting spells, or even a sudden collapse.

Heart attacks are the most common cause of death in New Zealand. Five percent of New Zealanders have known heart disease, often related to smoking, obesity, diabetes, or high blood pressure. Many more remain undiagnosed. They are all at risk for a heart attack, which occurs when there is a sudden blockage of blood flow to part of the heart muscle, causing that part of the muscle to become injured or die.

Chest Pain and Heart Attack



Sunburn

Children and teens are especially prone to sunburn damage, with even a single blistering sunburn in childhood predisposing them to potentially life-threatening melanoma later in life.

Fair skinned or light-haired individuals are at markedly greater skin cancer risk overall than people with a naturally darker complexion.

Electrical burns

Check for danger to rescuers first! Do not go onto any scene that may involve a fallen electrical wire, or where there is a risk of electrocution, until the area is made safe by electrical utility workers. Once the scene is made safe, assess DR^SABCD. All electrocutions will require an ambulance.

Chemical burns

- Wear gloves and avoid direct contact with your own skin.
- Quickly remove all contaminated clothing.
- Shower or hose the patient off for 20 minutes; beware of hypothermia in children and elderly.
- If the eyes are involved with a chemical exposure, treat as a foreign body in the eye.



A burn is the damage caused to skin or deeper structures by fire, hot water, chemicals, electricity or even extreme cold.

Skin damage keeps going on even after the source of heat is removed. It is essential to get the skin water-cooled as soon as possible. Stop, cool, cover.

Fire

- Have the patient stop, drop, and roll. Extinguish flames with a cloth or coat. Remove clothing. Immediately place under cool running water for 20 minutes.
- Infants, children, and the elderly are susceptible to hypothermia from cooling techniques. Keep unaffected parts of the patient's body covered and warm, if possible.
- Cover with plastic cling film, or burn gel dressing. Keep dressings very loose, so blood flow isn't restricted as tissues swell.
- Do not break blisters, apply ointments, or remove any bitumen or plastic melted on the skin.

Minor burns: such as sunburn, have redness or minimal blistering, and can be referred to a GP clinic for a wound check in 2-3 days.

Major burns: call an ambulance for any burns that are:

- Involving the airway, face, eyes, hands, feet or groin.
- Associated with smoke inhalation, coughing, or trouble breathing.
- Caused by chemicals, or electricity.
- Deeper than a sunburn, or where the skin is white, grey, black/charred, grey, or where the skin is peeling off in sheets.
- Accompanied by decreased sensation, or capillary refill longer than 2 seconds.
- Occurring in infants, children or elderly patients. Covering a surface larger than half the patient's arm.



- Asthma is a common lung disease, affecting one in ten people.
- Asthma attacks may be triggered by allergies, cold or exercise.

Asthma causes tightening of the airways, which patients notice as:

- Wheeze.
- Trouble breathing.
- Chest tightness.
- In severe cases, patients can become blue around the lips.
- Panicked and unable to speak or breathe.
- They may lose consciousness.

Asthma which is the result of narrowing and swelling of a person's' airways can make breathing difficult and trigger coughing. For some people, asthma is a minor nuisance.



Abdominal injuries can range from minor bruises to the chest wall, to major injuries such as a collapsed lung and bleeding into the chest cavity.

Internal bleeding is a serious threat to life. Beware of any injury involving a vehicle or a fall from height. Assess for signs of shock, and call an ambulance for all abdominal injuries that are not clearly minor.

- Abdominal or back pain.
- Abdominal bruising.
- Nausea.
- Light-headedness.
- Rapid or weak pulse.
- Shortness of breath.
- Loss of consciousness.