Event Health Services
CLINICAL PROTOCOLS

Edition September 2022

St John

The Clinical Governance Committee of St John Ambulance Australia Ltd (SJAA) has produced this document as a national guideline for SJAA's First Aid and Event Health Services. It is acknowledged that individual State and Territory entities may have jurisdictional legislation and regulation that does not support the use of some of these protocols. We hope that these national clinical protocols are useful in case of any gaps in knowledge and practice.

This document can be downloaded from Member Connect (https://members.stjohn.org.au/)

Revision history

This content is approved by SJAA's Clinical Governance Committee.

Version	Revision detail	Next revision due
Sept. 2022	Review and revision. Addition of: • Adrenaline (Nebulised) • Ipratropium Bromide (Atrovent) - Inhaler • Ipratropium Bromide (Atrovent) - Nebuliser • Naloxone • Ondansetron • Petroleum Gel • Splinting - Traction • Supra Glottic Airway (iGel) • Tourniquet - Arterial / Combat • Wound packing (haemostatic agents)	
Nov. 2021	Full review and edit of *Operations Branch First Aid Procedures*.	
March 2013	Original document, *Operations Branch First Aid Procedures*	

Acknowledgements

St John Ambulance Australia Ltd acknowledges the significant work undertaken by the previous Chief Professional Officer and Australian Health Professional Group in the initial preparation of this document. Recognition and thanks is also given to the Clinical Governance Committee for their thorough review in updating this document.

Communication

St John personnel should, in the first instance, contact their appropriate manager with any comments or enquiries concerning the information in this document. Otherwise, formal comments and enquiries concerning any element within this document can be made to the: Secretariat, Clinical Governance Committee, St John Ambulance Australia Ltd, PO Box 292, Deakin West ACT 2600,
email: gabrielle.lhuede@stjohn.org.au (02 6239 9209).

Contents

Introduction

St John is a provider of health services, the largest of which is the provision of first aid services at events (EHS). These protocols contain information for St John EHS personnal, that supplements that material provided in *Australian First Aid* (5th edition), recognising the different context to their provision of first aid

The use of medications by St John EHS personnal is a routine part of providing first aid and professional healthcare to the Australian community. The use of medications in any health service, ambulance provider or health-related organisation (including St John) is subject to authorised availability, and State and Territory legislation and regulation.

This document contains assessments, procedures, and standards relating to the administration of approved medications by St John EHS personnal, within their scope of practice

Governance

The Clinical Governance Committee is responsible for authorising and routinely reviewing the availability and use of medications by St John EHS personnal.
A St John EHS member refers to a:

- St John First Aider
- First Responder
- Advanced Responder
- Healthcare professional (using these protocols at the agreed St John credentialled level).

Healthcare professionals

Healthcare professionals administering medications as a First Responder or Advanced Responder are to consider these procedures as protocols.

Additional resources

The following titles are published by St John Ambulance Australia Ltd. You can obtain a PDF of any of these by contacting gabrielle.lhuede@stjohn.org.au

- *Advanced resuscitation* (May 2020)
- *Asthma and anaphylaxis* (February 2021)
- *Australian First Aid*, fifth edition 2021 (AFA5)
- *Bites and stings* (March 2021)
- *Providing pain management* (May 2020) – includes supplementary information on the use of aspirin, oxygen and salbutamol

Member education

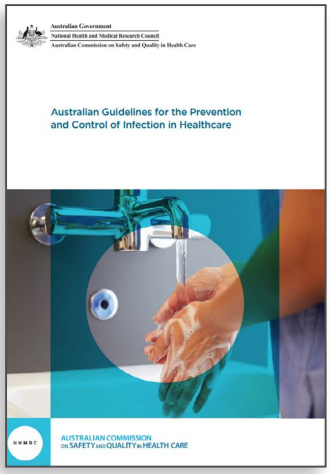
St John Ambulance Australia provides online learning for all their volunteers. Go to https://memberslearning.stjohn.org.au/, and click on volunteer courses. Contact your jurisdiction's EHS Training Manager for further assistance.

All St John personnel are required to undertake the National Child and Vulnerable Persons' Safety Accredited training course.

Disclaimer

This document is contextual to the provision of healthcare practices by EHS personnal within St John. While all care has been taken to ensure that the information is correct at the time of publication, St John personnel should, in the first instance, contact their appropriate manager with any comments or enquiries concerning the information in this document.

Infection control



The National Health and Medical Research Council's *Australian guidelines for the prevention and control of infection in healthcare (2019)* are endorsed as St John's national resource for infection prevention and control.

All EHS personnal should apply these principles to the application of the protocols within the St John context. While designed for use in structured health care settings, they can and should be adapted to the St John environment where health care is being delivered. Decisions around the plan of care (e.g. wound closure or wound cleaning) may be altered by the environment and the ability to achieve a safe environment for the patient.

Key areas for all health professionals include:

- routine hand hygiene
- choice of product for routine hand hygiene practices
- choice of hand hygiene product when hands are visibly soiled
- wearing of aprons and gowns
- use of face and protective eye wear for procedures
- wearing of gloves
- sterile gloves
- safe handling of sharps
- disposal of single-use sharps
- routine cleaning of surfaces
- cleaning of shared clinical equipment
- surface barriers
- site decontamination after spills of blood or other potentially infectious materials
- implementation of contact precautions
- implementation of droplet precautions
- implementation of airborne precautions.

Accessing and using the Guidelines

The Australian guidelines for the prevention and control of infection in healthcare (2019) are available on an interactive 'living guidelines' platform, MAGICapp. This allows for 'point of care' use and for the guidelines to be accessed in both online and offline formats across a range of devices through an application or web browser.

Administration of medications

Before administering any medication, the treating member must check the following with another person over 18-years-of-age (preferably a St John member).

Contraindications

- allergies
- expiry date
- intact packaging.

Note: The last two points do not apply to oxygen and Entonox. They have plastic heat tags, and the bottle should not be used if the tags are deformed.

The 5 Rights

Only administer medication according to the '5 rights':

1. the right medication
2. to the right patient
3. the right dose(s)
4. at the right time
5. via the right route.

All medications (including paracetamol) must be administered directly to the patient by the treating member, not by another person.

In general, medications should not be administered to a patient under 16-years-of-age without the consent of a parent or guardian. States and Territories should consult and apply local legislation in determining the age of consent in relation to the administration of medication.

Authority and availability

The administration of medications in any healthcare service, ambulance provider or health-related organisation (including St John) is subject to the legislation and regulation set down by State and Territory governments. Those laws govern what medicines may be purchased, administered and stored in their jurisdictions.

The purchase, storage, handling, transport, and administration of these medications are strictly subject to State or Territory legislation and regulation. This usually occurs in the form of a Health Services Permit or Licence of some form.

The availability of these medications in States and Territories will vary. This may be due to drugs and poisons licences, legislative requirements, or respective State and Territory policies.

Medications approved for use by the Clinical Governance Committee

Scheduled drugs listed here

Schedule 2 (S2) Pharmacy medicine	Substances, the safe use of which may require advice from a pharmacist and should be available from a pharmacy or, where a pharmacy service is not available, from a licensed person.
Schedule 3 (S3) Pharmacist Only Medicine	Substances, the safe use of which require professional advice but which should be available to the public from a pharmacist without a prescription.
Schedule 4 (S4) Prescription Only Medicine	Substances, the use or supply of which should be by or on the order of persons permitted by State or Territory legislation to prescribe and should be available from a pharmacist on prescription.

Members are approved to use only the following medications according to their level of clinical accreditation.

Key

Red – not to be used by the EHS member	Amber – can be used with conditions	Green – can be used by the noted EHS member

Notes

1 Under supervision
2 Only if the patient has a prescription

Medication	Schedule	First Aider	First Responder	Advanced Responder
Adrenaline (Epinephrine) – ampoule	S3	N	N	Y
Adrenaline (Epinephrine) – auto-injector	S3	Y[1]	Y	Y
Adrenaline (Epinephrine) – nebuliser	S3	N	N	Y
Aluminium sulphate (Stingose) – spray or gel	–	Y	Y	Y

Medications approved for use by the CGC

Key

Red – not to be used by the EHS member	Amber – can be used under supervision	Green – can be used by the noted EHS member

Notes

1 Under supervision
2 Only if the patient has a prescription

Medication	Schedule	First Aider	First Responder	Advanced Responder
Antacid (Mylanta) – tablet	–	N	Y	Y
Artificial tears (Refresh)	–	N	Y	Y
Aspirin (Disprin Direct)	S2	Y	Y	Y
Cetirizine (Zyrtec) – (see 'Antihistamines') – tablet	S2	N	Y	Y
Fexofenadine (Telfast) (see 'Antihistamines') – tablet	S2	N	Y	Y
Glucagon hydrochloride	S3	N	N	Y
Glucose tablets / gel	–	Y1	Y	Y
Glyceryl Trinitrate	S3	N	Y[2]	Y
Ibuprofen (anti-inflammatory) – tablet or capsule	S2	N	Y	Y
Ipratropium bromide (Atrovent) – inhaler	S4	N	N	Y
Ipratropium bromide (Atrovent) – nebuliser	S4	N	N	Y
Loratadine (Claratyne) (see 'Antihistamines') – tablet	S2	N	Y	Y
Methoxyflurane (Penthrox®)	S4	N	Y	Y

Medications approved for use by the CGC

Key

Red – not to be used by the EHS member	Amber – can be used under supervision	Green – can be used by the noted EHS member

Notes

1 Under supervision
2 Only if the patient has a prescription

Naloxone (intranasal)	S3	N	Y	Y
Medication	**Schedule**	**First Aider**	**First Responder**	**Advanced Responder**
Naloxone (intramuscular)	S3	N	N	Y
Nitrous oxide (Entonox®)	S4	N	Y	Y
Ondansetron (wafer / oral)	S4	N	N	Y
Paracetamol	S2	Y[1]	Y	Y
Petroleum jelly (Vaseline)	–	Y	Y	Y
Salbutamol (inhaler)	S3	Y[1]	Y	Y
Salbutamol (nebuliser)	S4	N	N	Y

Abbreviations used

ASADA	Australian Sports Anti-Doping Authority
bpm	beats per minute
BVM/BMV	Bag-value mask or bag-mask ventiliation (not used by the First Aider, First Responder or Advanced Responder)
cm	centimetre
g	gram
Lpm	litres per minute
IM	intramuscular
IPPV	intermittent positive-pressure ventilation
mcg	micrograms (µg)
mg	milligram
mL	millilitre
PPE	personal protective equipment

Procedures

Intramuscular injection

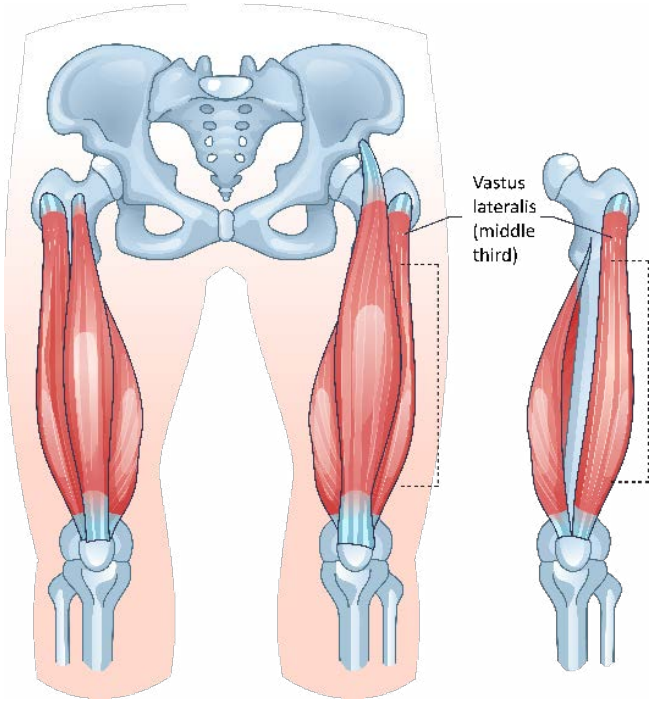
An intramuscular (IM) injection is the administration of medication through the cutaneous and subcutaneous layers, into the muscle.

Solutions up to a volume of 5 ml in large muscles, and 2 ml in smaller muscles may be used.

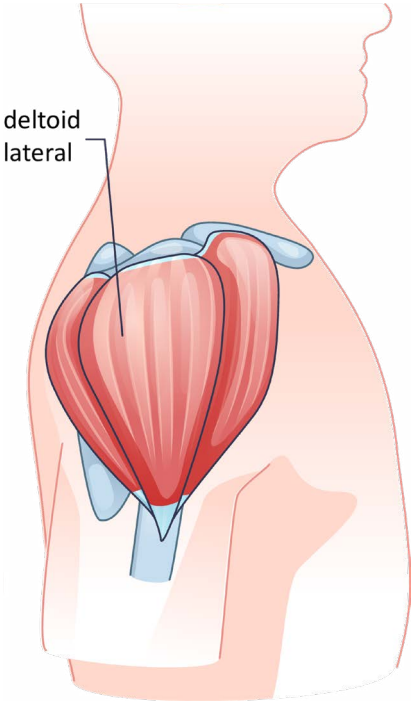
The IM route is often used for medications that will not irritate soft tissue and can be suitable dissolved. Medication is delivered into skeletal muscles because they have fewer pain receptors and good blood perfusion, thus minimising pain.

The IM sites chosen are areas where there is low risk of the needle penetrating a large blood vessel or a nerve.

The preferred site for IM injections, especially with children, is the vastus lateralis muscle in the thigh. The deltoid muscle in the arm is an alternative for adults.



The **vastus lateralis site** is a large muscle in the thigh free from major nerves and vascular structures.



The **deltoid site** on the lateral upper aspect of the arm, is used for the administration of smaller volumes of solution.

Intramuscular injection

Equipment required

- small tray or kidney dish and cover
- syringe: size depends on amount of drug to be injected
- drawing-up needle
- needle: gauges 21 g or 23 g
- alcohol swabs
- a sharps container (or a suitable rigid and puncture-proof container)
- drug to be injected
- If the patient is restless, or very apprehensive, another member should assist with the procedure.

Administration

1. Introduce yourself to the patient. Explain what you are going to do and obtain their consent before starting the procedure.
2. Wash your hands.
3. Clean the patient's skin at the injection site with alcohol swab and allow to air-dry.
4. Grasp the patient's skin at the injection site between thumb and forefinger of one hand — either pulled taut or bunched up.
5. Quickly insert the needle through the skin at an angle of 90° and for about 2/3 of its length.
6. Withdraw the plunger a little to make sure that the needle has not penetrated a blood vessel.
   - If blood appears in the syringe, withdraw the needle slightly to avoid the blood vessel.
   - Attempt to aspirate again.
   - If no blood appears in the syringe slowly push plunger down to inject drug — rapid injection of a fluid causes pain.
7. Place a swab over the injection site once the needle is withdrawn. Massage the area to disperse the drug (unless administering a vaccination).
8. Place the used needle immediately into a sharps container (or suitable rigid and puncture-proof container)
9. Ensure the patient is comfortable.
10. Complete the Patient Record and handover to a St John Healthcare Professional or medical aid.
11. Remove equipment and clean any reusable equipment.

Splinting – traction

There are different traction devices used across SJAA jurisdications. Following are the general principles that apply to all traction types. Please follow the specific guidance for the available device.

Indications

- A suspected or obvious isolated fracture of the midshaft femur is an indication for traction splinting.
- If there are other fractures in the foot or ankle, traction may not be effective. Traction splints require support at the bandage sites to be able to apply traction.

Contraindications

- Fractures of ankle (lower 1/3 of tibia) or foot
- Partial amputation or avulsion with bone separation while only marginal tissue connects the distal limb.

Clinical significance

Traction splint is a useful emergency tool to:

- better align the femur fracture
- increase arterial blood flow
- decrease pain and spasming
- reduce the risk of further injury from fractured bone fragments.

Management

1. Patients who are indicated for traction splinting, have significant injuries, and early emergency ambulance transport should be arranged
2. Traction splinting will require effective analgesia, this must be prioritised before attempting splinting.
3. Frequently re-assess neurovascular function of the extremity after the application of splint.

   Assess:

   a. Colour

   b. Warmth

   c. Movement

   d. Sensation

   e. Pulse (below the injury site)

   f. Capillary refill time

SupraGlottic Airway – iGel

Indications

- Cardiac arrest
- Respiratory arrest
- Unconscious with no airway reflexes, requiring assisted ventilation

Contraindications

- Gag reflex
- Trismus (inability to open the mouth)Precautions
- Traumatic brain injury (any gagging while applying the iGel will increase intracranial pressure (ICP))
- Large body habitus (increased airway pressure)
- Asthma or obstructive lung disease (increased airway pressure)
- Ongoing vomit or airway bleeding

Equipment

- Appropriate size supraglottic airway (i-Gel)
- BVM
- Disposable catheter mount (optional)
- Lubricant
- Oxygen
- Airway support strap or tape
- Suction

Administration

Prepare the device for use

1. Open the i-gel package. On a flat surface, remove the device from the protective cradle.
2. Holding both the i-gel and the cradle, place a small bolus of water-based lubricant onto the side of the smooth surface of the cradle in preparation for lubricating the i-gel.
3. Holding the i-gel by the integral bite block, lubricate the back, sides and front of the cuff with the lubricant on the cradle.
4. Place the i-gel back into the protective cradle in preparation for insertion.

SupraGlottic Airway – iGel

Insertion

1. Remove the i-gel from the protective cradle
2. Grasp the lubricated i-gel firmly along the integral bite block.
3. Position the device so that the i-gel cuff outlet is facing towards the chin of the patient. The patient should be positioned – head extended and neck flexed also known as the 'sniffing the air' position
4. Gently press the chin down (open mouth) and introduce the leading soft tip into the mouth of the patient in a direction towards the hard palate.
5. Glide the device downwards and backwards along the hard palate with a continuous but gentle push until a **definitive resistance** is felt. Do not repeatedly push the i-gel down or apply excessive force during insertion. No more than 3 attempts on one patient should be attempted. It is not necessary to insert fingers or thumbs into the patient's mouth during insertion of the device.
6. The tip of the airway should be located into the upper oesophageal opening and the cuff should be located against the laryngeal framework. The incisors should be resting on the integral bite-block.
7. Tape the i-gel down from 'maxilla to maxilla' (upper jawbone).

Arterial tourniquet

When to use an arterial tourniquet

Tourniquets should only be used for:

1. severe, life-threatening external bleeding to a limb (extremity) which cannot be controlled by firm, direct pressure. For example:
   - amputated or partially amputated limb
   - shark attack, propeller cuts or similar major trauma to a limb (extremity)
   - bleeding to a limb with signs of shock: pale and sweaty plus pulse rate greater than 100, or capillary refill greater than 2 seconds, and/or a decreased level of consciousness
   - bleeding on a limb (extremity) not controlled by firm, direct and sustained pressure.
2. multiple patients with external bleeding to limbs, and a lack of resources to apply firm, direct and sustained pressure.

Cautions

- Use a commercially-available tourniquet and apply in accordance with the manufacturer's instructions.
- Apply the tourniquet directly to the skin.
- Do not apply over a joint or wound, clothing or wet suits.
- Do not cover the tourniquet with any bandages or clothing.
- Application of a tourniquet implies a high priority emergency. Ensure Triple Zero (000) has been called. Do not remove the tourniquet.

Administration

1. Follow DRSABCD. Call Triple Zero (000) for an ambulance.
2. Wrap the strap around the bleeding limb
3. Position the tourniquet 5–8 cm (about 3-fingers-width) above the bleeding site, directly to the skin. It can be safely applied to forearm, upper arm, leg and thigh.
4. Pull the strap tight but not over the windlass clips.
5. Twist the windlass until the bleeding has stopped. Warn the conscious patient that this will probably cause significant pain.
6. Secure the windlass to keep it in place.
7. Check that the bleeding has stopped and that the pulse is absent. (The part of the limb on the far side of the tourniquet will become cold to touch and dusky in colour; there will be no pulse at their wrist or foot. This is normal, and the tourniquet should not be removed.)

Arterial tourniquet

8. If the bleeding does not stop, check the position of the tourniquet and how it has been applied.
9. If bleeding continues, a second tourniquet (if available) should be applied to the limb, preferably just above the first.
10. Record the time of the application on the device or on the limb above the tourniquet.
11. Ensure an ambulance has been called – Triple Zero (000).

Wound packing

A haemostatic dressing (e.g. QuikClot®) is a soft gauze that contains an agent that promotes blood clotting. This type of dressing can be 'packed' into a deep, severely bleeding wound where a tourniquet cannot be applied, such as the neck, the groin, an armpit or to a deep laceration not involving an artery.

Where haemostatic dressings are not available ribbon gauze (or crepe roller bandages) can be used as substitutes.

Caution

- A haemostatic dressing or wound packing should be applied with sustained direct firm pressure over the bleeding site to be effective. Applying the gauze without firm direct pressure is not adequate.
- Do NOT use a haemostatic dressing for wounds involving exposed organs (e.g. bowel)
- Do NOT apply a haemostatic dressing or wound packing to open wounds to the chest, the abdomen, pelvis, and injuries to the eyes or airway.

Administration

1. Follow DRSABCD. Call Triple Zero (000) for an ambulance.
2. Apply immediate digital (with fingers) pressure to the bleeding wound, aiming to identify the bleeding point
3. Open the package and remove the dressing.
4. Warn the conscious patient that packing the wound will probably cause significant pain.
5. Insert the dressing into the wound with the fingers of one hand, while maintaining direct and firm pressure with the other hand. Continue to pack until you have run out of the dressing, or the wound is fully packed. Insert another dressing if needed.
6. Leave a tail of all the dressings outside the wound and tape down.
7. Apply direct and firm pressure to the packed wound for 3-5 minutes.
8. Secure the dressing with a bandage. Do NOT remove the dressing.
9. Make a note of the number of dressings used to pack the wound and record this on the medical record AND on the patient near the wound
10. Stay with the patient until medical aid arrives.

Medications

Adrenaline (Epinephrine) – auto-injector or ampoule

Brand names

- EpiPen®
- AnaPen®
- Adrenaline

Indications

- severe allergic reactions (anaphylaxis), where the patient has an impaired level of consciousness
- symptoms of severe allergic reaction (anaphylaxis) involving more than one body system

Contraindications

Nil when used for the above indications

Action

- vasoconstriction — increases blood pressure
- bronchodilatation — reduces respiratory distress
- mast cell stabilisation — reduces allergy symptoms

Side effects

- tachycardia
- hypertension
- palpitations

Presentation

Liquid in an ampoule or auto-injector device:

- 500 mcg (0.5 mg) for adults (12 years and over)
- 300 mcg (0.3 mg) for large children 5-11 years
- 150 mcg (0.15 mg) for children less than 5 years

Medication route

Intramuscular injection (IM)

Adrenaline (Epinephrine) – auto-injector or ampoule

Administration

Position

1. Help the patient to lie down flat. Do NOT allow them to stand or walk.
2. If the patient is unconscious, place them in the recovery position, and give the adrenaline auto-injector immediately
3. if the patient is pregnant and unconscious, place in the recovery position on their left side.
4. If breathing is difficult, allow the patient to sit with their legs outstretched.
5. Hold young children flat, not upright.

Prepare to administer adrenaline, IM

1. Expose and prepare injection site—mid lateral thigh, or deltoid muscle if thigh inaccessible.
2. Administer IM injection of adrenaline:
   - 500 mcg (0.5 mg) for adults (12 years and over)
   - 300 mcg (0.3 mg) for large children 5-11 years
   - 150 mcg (0.15 mg) for children less than 5 years

   Auto-injectors such as EpiPen® and EpiPen® Jr, AnaPen® and AnaPen® Jr. are fixed dose delivery systems at the strengths given above.

   If using an auto-injector ensure the auto-injector is pressed firmly against the skin and held in place for 3 seconds.
3. Record drug administration and time on the Patient Record.
4. Prepare patient for transport:
5. Continue basic life support until the patient is handed over to ambulance services or other Healthcare Professional.
6. Monitor breathing, provide oxygen therapy.
7. Monitor vital signs; specifically, conscious state, pulse and blood pressure. Pulse oximetry
8. When practicable, record observations onto a Patient Record.
9. If the patient has a wheeze, this must be also treated with asthma reliever medication (e.g.: salbutamol, Ipratropium bromide), but this should never prevent or delay the administration of IM adrenaline medication.
10. Repeated doses of IM adrenaline at 5-minute intervals may be necessary if symptoms of anaphylaxis remain present. A different muscle should be used for each repeat injection, where possible.
11. If the patient is conscious and has medication for their allergic condition they should be encouraged to take this medication in accordance with their Allergy Action Plan, and supported by the St John member to use this medication.

Adrenaline (Epinephrine) – auto-injector or ampoule

Note

- There is no age limit for the administration of adrenaline:
  - auto-injectors are safe for all patients
  - for patients less than 5 years, EpiPen® Junior or AnaPen® Junior should be used.
- Any patient who has been treated with adrenaline MUST be assessed by a St John healthcare professional or the ambulance service.
- St John EHS members should manage patients as given in AFA5, and within their scope of practice/clinical accreditation.

References

- *Asthma and anaphylaxis*, St John 2020
- *AFA5*

Adrenaline (Epinephrine) - Nebuliser

Brand name

Adrenaline (Epinephrine)

Indications for use

- Upper airway oedema (swelling), a symptom of, for example:
- croup
- facial swelling related to severe allergic reaction (anaphylaxis). (but this should never prevent or delay the administration of IM adrenaline medication.)

Contraindications

- Nil when used for the above indications.
- Nebulised therapy is a vector for spreading respiratory illness (especially viral illness). It should be used with caution, preferably in open or well-ventilated spaces. Staff must wear PPE for contact and aerosol transmission-based precautions

Action

- vasoconstriction — increases blood pressure
- bronchodilatation — reduces respiratory distress
- mast cell stabilisation — reduces allergy symptoms.

Side effects

- tachycardia
- hypertension
- palpitations

Presentation

1mg/ml ampoule

Medication route

Nebuliser

Adrenaline (Epinephrine) - Nebuliser

Administration

1. Basic life support:
   - Check, clear and maintain airway.
   - Monitor breathing and provide oxygen therapy.
   - Monitor vital signs, specifically: conscious state, pulse, and blood pressure.
   - When practicable, record observations onto a Patient Record.
2. Prepare to administer adrenaline:
   - Add 5 mg (5 mL of the 1 mg/mL preparation) of the adrenaline to nebuliser reservoir
   - Attach to nebuliser mask and connect to oxygen supply
   - Administer to patient – leave running until nebuliser fluid is expended
   - Record drug administration and time on Patient Record.
3. Prepare patient for transport:
   - Continue basic life support until the patient is handed over to the ambulance service or healthcare professional.
   - Repeat doses of nebulised adrenaline are unlikely to be necessary. Only repeat at 20-minute intervals if symptomatic upper airway oedema (swelling) continues.
   - If the patient is conscious and has some medication for the condition that is causing the swelling, they should be encouraged to take this medication in accordance with their prescription.

Note

- When used for a patient with anaphylaxis, nebulised adrenaline MUST NOT delay or be considered as a replacement for IM adrenaline. The core treatment for anaphylaxis remains IM adrenaline and no other treatment must delay the initial or ongoing (repeated at 5-minute intervals) use of IM adrenaline where symptoms of anaphylaxis exist.
- There is no age limit for the administration of nebulised adrenaline.
- Any patient who has been treated with nebulised adrenaline should be assessed by a St John healthcare professional or the ambulance service.
- St John EHS members should manage patients as given in AFA5, and in within their scope of practice/clinical accreditation.

Aluminium sulphate

Brand name

Stingose™

Indications

- pain relief
- inflammation and itching of stings and bites of most insects and plants including bees, wasps, ants, sea lice, vines, and nettles
- may also provide relief for some skin rashes

Contraindications

Sensitivity to Stingose™

Action

- Aids in cleaning skin of bacteria
- Relief is within minutes of application

Side effects

- Rare, but there may be limited short-term skin reactions

Presentation

- Nebuliser: 20% solution in 25 ml or 100 ml pump spray bottle
- Gel: 3 ml sachet.

Medication route

Topical

Administration

Stingose™ is normally administered after an ice pack has been applied to the affected area for pain relief. There is no maximum dose.

1. Apply gloves before administering Stingose™.
2. After the ice pack has been removed, dry the skin before applying Stingose™ (to avoid run off or dilution).
3. Test spray to ensure nozzle works-spray away from the patient. If the nozzle does not work, pull off the top cap, wipe off any deposits and wash in water. Replace the cap and deliver a second test spray.
4. Apply quickly and liberally to the patient's affected skin area.
5. Wait until the Stingose™ has dried and formed a powder on the skin before considering re-application.
6. Avoid contact with eyes or mouth.
7. Remove gloves and wash hands.

Aluminium sulphate

Use in sport

Permitted

Notes

In serious stings or bites St John EHS members should manage patients as given in *AFA5*, and in within their scope of practice/clinical accreditation.

1. Seek medical aid as appropriate.
2. Monitor the patient for allergic reaction, particularly if they have a history of reactions.

Antacid

Brand name

Mylanta Original

Indications

Gastric upset, bloating, flatulence, peptic ulcer, and heartburn

Contraindications

- Patient is unable to understand or comply with instructions for self-administration.
- Vomiting.
- Kidney failure.
- Patient has taken medication for heart disease, diabetes, high blood pressure, epilepsy, arthritis, gout, bacterial or fungal infection during the last two hours.
- Patient has been taking antacid tablets continuously for the previous 14 days.

Precautions

Cardiac pain may mimic indigestion. If signs and symptoms appear similar to cardiac chest pain, initiate care in accordance with your clinical accreditation and request a St John healthcare professional or ambulance service as a precaution.

Action

Three main active ingredients:

1. Aluminium: reacts to help reduce stomach acidity
2. Magnesium hydroxide: reacts to help reduce stomach acidity.
3. Simethicone: acts as an antiflatulent and reduces built-up gas in the stomach.

Side effects

Constipation and diarrhoea.

Presentation

Tablet:

- pale yellow, chewable, mint or lemon-flavoured.
- 200 mg Magnesium hydroxide, 200 mg Aluminium Hydroxide, 20 mg Simethicome.

Medication route

Oral.

Antacid

Administration

Always check the dose before administration:

- Adult/child over 12 years: 2–4 tablets chewed and swallowed, ideally between meals and at bedtime.
- Maximum dose: 3–4 times daily.
- Child: do not administer to a child under 12 years.

Use in sport

Permitted.

Note

Exercise **CAUTION**. This medication is associated with several errors. It is:

- frequently under-dosed (too little is administered)
- administered by the incorrect route (swallowed with water instead of chewed)
- incorrectly administered when the medicine required was paracetamol.
- Incorrectly used when the patient was experiencing cardiac chest pain symptoms

Antihistamines — Cetirizine, Fexofenadine, Loratadine

Brand names

Claratine, Telfast, Zyrtec

Indications

Seasonal allergy of sneezing, itching, watery eyes, or runny nose

Contraindications

Known allergy to the product.

Precautions

- profound hypertension
- renal impairment
- epilepsy or convulsion risk
- pregnancy or lactation
- intoxication with alcohol

Action

H1-receptor antagonist

Side effects

- dry mouth
- fatigue
- dizziness

Presentation

- Cetirizine (Zyrtec): tablet – 10 mg
- Fexofenadine (Telfast) tablet – 180 mg
- Loratadine (Claratine) tablet – 10 mg

Medication route

Oral

Antihistamines — Cetirizine, Fexofenadine, Loratadine

Administration

1. Exclude all signs of systemic allergic reaction. (If anaphylaxis is identified – move to anaphylaxis management and immediately administer adrenaline)
2. Check and record vital signs, including blood pressure.
3. Provide:
   - Adult/child over 12 years: 1 tablet (regardless of the selected agent) swallowed with water. Maximum dose: 1 tablet in any 24-hour period.
   - Child: do not administer to a child under 12 years.

Note

- Always check the dose before administration as different concentrations exist in some of these medications.
- This is the only authorised use (under these Guidelines) for St John EHS members. Antihistamines are not to be used for systemic allergic reactions (anaphylaxis).

Artificial tears (polyvinyl alcohol, povidone)

Brand names

Refresh® (preservative free, single use units)

Indications

Relief of irritated, dry, tired eyes

Contraindications

Hypersensitivity to polyvinyl alcohol or povidone

Precautions

Only to be used as eye drops.

Action

- Stabilises the pre-corneal tear film
- lubricates the eye and increases tears

Side effects

Nil

Presentation

Eye drop single-use unit: 1 x 0.4 ml

Medication route

Eye drops

Administration

1. Ensure container is intact before use.
2. Completely twist off tab and pull to remove
3. Apply two (2) drops in each eye. May be repeated up to four (4) times per day.

Use in sport

Permitted

Note

- Eyes should be cleaned with sterile water or saline before using this medication.
- Preference is to use single-use units; multi-use preparations contain preservatives that should be avoided.

Discharge advice

Avoidance of high particulate content (e.g. smoke) environments is advised following treatment.

Aspirin

Brand names

Aspro Clear, Disprin

Indications

An acute coronary syndrome e.g. angina, heart attack

Contraindications

Known allergy to aspirin.

Precautions

- patient taking anti-coagulant medication (e.g. Warfarin)
- patient advised by doctor not to take aspirin

Action

- reduces pain, inflammation and fever
- reduces the effectiveness of blood clotting

Side effects

- possible allergic reaction
- gastric upset
- increased bleeding time

Presentation

White tablet: 300 mg

Medication route

Oral

Administration

- Follow protocol as given in *AFA5*.
- Adult/child over 12 years: 1 tablet swallowed with water or chewed if a chewable tablet. Maximum dose: 1 tablet (300 mg).
- Child: do not administer to a child under 12 years.

Use in sport

Permitted.

Note

- This is the only authorised use (under these Guidelines) for St John EHS members. Aspirin is NOT to be used for pain relief or fever.
- Always check the dose before administration as different concentrations exist.
- St John EHS members should manage patients as given in *AFA5*, and in within their scope of practice/clinical accreditation.

Glucagon hydrochloride

Brand names

GlucaGen HypoKit®

Indications

- Hypoglycaemia (extremely low blood sugar levels or a 'hypo'), where the patient is unconscious or has an impaired level of consciousness and oral intake would not be safe.
- Hypoglycaemia is a medical emergency.
- If possible, check the blood glucose level before administration, and confirm that the patient's level is low.

Contraindications

Nil when used for the above indications.

Action

Increases blood glucose levels by converting glycogen stored in the liver to glucose.

Side effects

nausea and vomiting (rare)

Presentation

Liquid – supplied as a single dose pack. It includes one vial containing a white freeze-dried powder or tablet (GlucaGen®) and a glass syringe pre-filled with sterile water (water for injection).

Administration route

IM injection

Administration

1. Basic life support:
    - Check, clear and maintain airway.
    - Monitor breathing, provide oxygen therapy as required.
    - Monitor vital signs, specifically the patient's conscious state, pulse, blood pressure, temperature, and blood sugar level.
    - When practicable, record observations onto a Patient Record.

Glucagon hydrochloride

2. Prepare to administer glucagon:
   - Expose and prepare injection site—mid lateral thigh or deltoid muscle if thigh is inaccessible. **Note:** the deltoid muscle site is not to be used in children aged less than 14 years.
   - Administer intra-muscular injection of 1 mg glucagon (0.5 mg if less than 5 years).
   - Record drug administration and time on Patient Record.
   - Prepare patient for transport.
   - Continue basic life support until patient is handed over to a St John healthcare professional or ambulance service.
   - If the patient regains consciousness, give sugar, sweetened drinks or glucose.

Preparing Glucagen HypoKit [Glucagon (rys) hydrochloride] for injection

- The glucagon solution should be prepared immediately before use.
- The freshly prepared glucagon solution should be clear.
- It should not be injected if it contains solid particles.
- The glucagon solution should not be stored for later use.

1. Remove both of the plastic caps from the vial. Pull the needle cover off the syringe. Insert the needle through the rubber stopper (within the marked circle) of the vial containing GlucaGen® and inject all the water from the syringe into the vial.

2. Without taking the needle out of the vial, gently shake the vial until the GlucaGen® has completely dissolved and the solution is clear.

3. Make sure the plunger is completely down. While keeping the needle in the liquid, slowly withdraw all the solution back into the syringe. Do not pull the plunger out of the syringe. It is important to remove any air bubbles from the syringe:
   - With the needle pointing upwards, tap the syringe with your finger
   - Push the plunger slightly to release any air that has collected at the top of the syringe.

4. Continue to push the plunger until you have the correct dose for the injection. A small amount of liquid will be pushed out when you do this.

5. Inject the dose under the skin or into a muscle. Refer to the instructions on how to inject the solution.

Glucagon hydrochloride

Note

For further information about the GlucaGen® Hypokit, visit Novo Nordisk Australasia.

Use in sport

Permitted

Note

- If the patient is conscious and able to swallow, oral intake is safe; consider administering glucose tablets or gel.
- There is no age limit for the administration of glucagon.
- The patient will normally regain consciousness within 5–20 minutes. A patient who has regained consciousness should still be assessed by a St John healthcare professional or ambulance service.
- St John members should manage patients as given in *AFA5*, and in within their scope of practice/clinical accreditation.

Glucose

Brand name

- BD Glucose tablets
- Glutose Gel

Indications

- hypoglycaemia (BGL less than 4.0mmol/L)
- patients who have collapsed due to lack of glucose

Contraindications

- Patient is unable to understand or comply with instructions for self-administration
- Vomiting
- Altered level of consciousness, compromising swallowing

Action

Increases blood sugar levels

Side effects

Nil

Presentation

Tablets: chewable

Gel: oral

Medication route

Oral

Administration

- Adult or child: Three tablets either chewed or dissolved in water or 1 tube of glucose paste (equivalent to 15 g of carbohydrate). If no significant improvement after 10–15 minutes, repeat the dose.
- Maximum dose: no maximum dose.

Use in sport

Permitted

Note

If the patient's next meal is more than 20 minutes away, advise them to eat a longer-acting carbohydrate (e.g. sandwich, glass of milk) now, and to also eat their next meal as planned.

Glyceryl Trinitrate (GTN)

Brand name

- Anginine
- Nitrospray

Indications

Patients who experience the symptoms they and/or you recognise to be from Acute Coronary Syndrome

Contraindications

- Blood pressure is less than 100 mmHg systolic.
- Pulse rate is less than 50 beats per minute (BPM), or greater than 150 BPM.
- Patient has consumed any of the erectile dysfunction drugs i.e. Sildenafil (Viagra) or Vardenafil (Levitra) within the past 24 hours, or Tadalafil (Cialis) within the past 4 days
- Known allergy or hypersensitivity to GTN.

Action

Dilates the coronary arteries and systemic veins

Side effects

- low blood pressure (hypotension)
- headache
- skin flushing
- rapid pulse (tachycardia)

Presentation

- Tablet – 300 or 600 micrograms
- Spray – 400 microgram per dose

  Note: Date the GTN bottle when first opened and discard all tablets in bottle once the expiry is reached (some brands have expiry dates that are adjusted based on opening, others continue till the printed expiry).

Medication route

- Tablet – sublingual
- Spray - sublingual

Administration

- **Proceed directly to Step 2** if, during this episode of care, the patient has self-administered a single dose of GTN without relief of chest pain before presentation or your arrival.
- **Proceed to Step 2** if during this episode of care the patient has taken more than a single dose of GTN prior to presentation.

Glyceryl Trinitrate (GTN)

1. If no previous use (at any time) of either GTN tablets or spray, administer GTN via one (1) metered dose spray or 300 mcg tablet (1/2 600 mcg tablet) under the patient's tongue. Instruct the patient not to swallow the spray or tablet and to allow it to dissolve.
2. If previous use (at any time) of GTN tablets or spray, then administer GTN via 1–2 metered dose spray or a total of 600 mcg in tablets (1 x 600 mcg tablet or 2 x 300 mcg tablets) under the patient's tongue.
3. If the pain is unrelieved 5 minutes after administration and the patient has a blood pressure above 100 mmHG and heart rate between 50–150 BPM, call Triple Zero (000) for an ambulance then administer a repeat initial dose of GTN.
4. If pain is unrelieved after 5 minutes, repeat the initial dose of GTN at 5-minute intervals if blood pressure is above 100 mmHG and heart rate is between 50–150 BPM. This can be repeated provided there are no contraindications to a maximum of 5 initial doses.
5. Consultation with a St John Healthcare Professional is encouraged and additional doses may be administered following this consultation where ambulance attendance is delayed

Use in sport

Permitted.

Note

- All patients with presumed acute coronary syndrome (ischaemic chest pain: angina; heart attack) should be strongly encouraged to attend hospital, even where this pain responds to treatment.
- If patient becomes light-headed, dizzy or hypotensive (blood pressure is less than 100 mmHg, systolic) then cease further GTN, remove any tablet that may be under the tongue, and lie the patient flat on their back.
- If there are any symptoms that are different to the patient's normal symptoms, then they should be referred to hospital for assessment even if these new symptoms have resolved.
- If symptoms are completely relieved (with patient's normal dose of medication i.e. less than 2 doses), observe the patient for at least 20 minutes then discharge with a recommendation to seek immediate medical attention if pain returns, and review condition with their own doctor. Where possible these patients should be reviewed by a St John healthcare professional before discharge.
- If possible, ensure that a defibrillator, resuscitation equipment and appropriately trained members are immediately available to assist if the patient has a cardiac arrest.

Ibuprofen (anti-inflammatory)

Brand names

Nurofen, Advil

Indications

- mild to moderate pain
- fever
- headaches

Contraindications

- Altered level of consciousness (e.g. due to a head injury, drug affected)
- If the patient has already exceeded the maximum daily dosage rates or taken ibuprofen in previous 6 hours
- Known hypersensitivity or allergy to ibuprofen

Precautions

If the patient is taking another medication containing ibuprofen (e.g. certain medicines for coughs, colds, sinus congestion and period pain) the presence of ibuprofen is declared in the label for these medications.

Action

Anti-inflammatory; reduces pain and fever

Side effects

- nausea and vomiting
- gastric irritation / ulcer

Presentation

200 mg tablet / capsule

Medication route

Oral

Administration

- Adult: Self-administered with water. 1-2 tablets every 6 hours
- Maximum dose: 8 tablets in 24 hours

Note

Always check the dose before administration as different concentrations exist.

Discharge advice

- If the pain persists, advise patient to see their doctor.
- Do not exceed the maximum dosage rates.

Ipratropium bromide — inhaler

Brand names

Atrovent

Indications

To relieve shortness of breath in asthma, chronic obstructive pulmonary disease, severe allergic reactions (anaphylaxis), smoke or gas inhalation

Contraindications

Known allergy/hypersensitivity to inhaler ingredients

Action

- Supports the dilation of the lower airways. Action is within 2–5 minutes.
- Effects last up to 6 hours.

Side effects

May aggravate glaucoma.

Presentation

Metered 20 mcg per dose or 'puff'. There are 200 'puffs' in a grey/green aerosol inhaler.

Medication route

Inhaled (using spacer)

Administration

Not used for mild to moderate asthma. Focus on the use of salbutamol in these groups.

1. Always administer salbutamol first.
2. Acute exacerbation of COPD and severe acute asthma in an adult: 8 puffs via spacer (4 breathes between each puff) whilst requesting a St John Healthcare Professional or ambulance service.
3. If no improvement, repeat at above rate only once after 20 minutes

Use in sport

Permitted. Athlete must declare use to ASADA.

Note

- St John EHS members should manage patients as given in *AFA5*, or within their scope of practice/clinical accreditation.
- Ensure a St John Healthcare Professional or ambulance service has been called.
- Single-use, disposable space chambers should be used for each patient.

Ipratropium bromide — nebuliser

Brand names

Atrovent

Indications for use

To relieve shortness of breath in asthma, chronic obstructive pulmonary disease, severe allergic reactions (anaphylaxis), smoke or gas inhalation

Contraindications

Known allergy/hypersensitivity to Atrovent

Precautions

Nebulised therapy is a vector for spreading respiratory illness (especially viral illness). It should be used with caution, preferably in open or well-ventilated spaces. Members must wear PPE for contact and aerosol transmission-based precautions.

Action

- Supports the dilation of the lower airways. Action is within 2–5 minutes.
- Effects last up to 6 hours.

Side effects

May aggravate glaucoma.

Presentation

- ampoule 250 mcg/mL
- ampoule 500 mcg/mL

Medication route

Nebuliser

Administration

- Not used for mild to moderate asthma. Focus on the use of salbutamol in these groups.
- Always administer salbutamol first.
- Acute exacerbation of COPD and severe acute asthma in an adult: 500 mcg whilst requesting a St John healthcare professional or ambulance service.
- If no improvement, repeat at above rate only once after 20 min.

1. Pour content of ipratropium ampoule/s into nebuliser chamber.
2. Connect nebuliser to oxygen mask.
3. Connect oxygen supply at 8 L/min to nebuliser inlet.
4. Apply nebuliser unit to patient and continue administration until all solution is used. This may take 6-10 minutes.

Ipratropium bromide — nebuliser

Use in sport

Permitted. Athlete must declare use to ASADA.

Note

St John Healthcare Professional or ambulance service should be called if ipratropium is administered

Methoxyflurane

Brand name

Penthrox®

Indications

Pain relief (severe)

Contraindications

- Patient is unable to understand or comply with instructions for self-administration.
- Reduced level of consciousness (e.g. head injury, drug affected).
- Previous adverse reaction to Methoxyflurane by patient or family member.

Precautions

Assess benefits and risks before administering to a pregnant patient.

Action

- Changes the way patient feels about pain—relieves discomfort.
- Pain relief occurs within 1–2 minutes.
- Effects wear off within 7–10 minutes of ceasing administration.

Side effects

- May become detached (normal) or drowsy as discomfort is eased.
- Very occasional nausea and vomiting.
- Larger doses than those used for pain relief can cause kidney damage.

Presentation

3 ml amber screw-top bottle.

Medication route

Inhaled

Administration

- Empty contents of bottle into bottom of an inhaler—absorbed into internal wick. The inhaler has clear plastic non-return valve disc which stops vapour being exhaled back through the wick but allows fluid in easily.
- Adult or child: 3 ml, self-administered via inhaler. The inhaler must be held by the patient so that if they become drowsy, the inhaler falls away from the patient's face. Supervise patient during administration.
- No more than 3 ml is to be emptied into the inhaler at once.
- Maximum dose: 6 ml/day.

Methoxyflurane is **self-administered intermittently, not continuously.**

Methoxyflurane

1. Begin with 6–10 breaths—the first breath cautiously to familiarise with the taste, thereafter normal breathing. Relieving effect often starts after 2–3 breaths.
2. Then patient holds inhaler, and instructed that when they feel the need (usually after e.g. 7–10 minutes intervals), to take another 6 breaths. Extra 6 breaths may be given before an expected painful episode, e.g. lifting or moving.
3. If the patient is trapped or injuries prevent self-administration, assist with inhaler.
4. Used intermittently this way—1 ampoule of 3 ml can last up to 1 hour.
5. If oxygen is required whilst administration of methoxyflurane continues, use nasal prongs at 2–4 L/min.
6. Blocking finger hole on the inhaler will increase the drug concentration and speed onset of relief.

Post-administration actions

Appropriately dispose of the inhaler by placing it in sealed plastic bags before placing in medical waste.

Use in sport

Permitted.

Note

- Methoxyflurane can be administered to patients with kidney stones or on renal dialysis.
- Patient must agree to be transported to hospital by the ambulance service or be reviewed by a St John healthcare professional.

Reference

Providing pain management, SJAA 2020

Naloxone – intranasal or intramuscular

Brand names

- Prenoxad®
- Nyoxoid®
- Narcan

Indications

Respiratory depression and altered conscious state following use of opioid and related drugs.

Contraindications

Nil of significance for the above indication.

Precautions

If patient is dependent on opioids, use may result in acute withdrawal.

Action

- Opioid antagonist.
- Prevents or reverses the effects of opioid drugs.

Side effects

- may result in acute withdrawal
- sweating, tremor
- nausea and vomiting
- agitation
- seizure

Presentations

- Specially designed intransal device (with 2 x 1.8 mg actuations)
- 2 mg prefilled syringe (with 5 x 400 mcg doses)
- 0.4 mg in 1 ml ampoule.

Medication route

- Intranasal
- Intramuscular

Naloxone – intranasal or intramuscular

Administration

Basic life support is the essential element of care for respiratory depression.

1. Maintain basic life support
   - DRSABCD as necessary.
   - Use oxygen therapy or ventilation with BVM. If ventilation via BVM, consider airway adjunct (eg; oropharyngeal, supraglottic)
   - Consider other causes of altered conscious state (eg: hypoglycaemia, head injury)
2. Consider naloxone:

   Intranasal. Open intranasal device, remove protective cap and follow directions (administer into one nostril).

OR, IF SUITABLY TRAINED,

Intramuscular (IM)

Prefilled syringe:

a. Expose and prepare injection site: mid lateral thigh, or deltoid muscle if thigh inaccessible.

b. Open prefilled syringe and administer 0.4 mg (1 dose), IM

Ampoule:

a. Open ampoule and draw up 1ml (400mcg) of naloxone.

b. Attach 21 g or 23 g needle and administer intramuscular.

3. Record drug administration and time on the Patient Record.
4. Prepare patient for transport: repeat the initial dose of naloxone after 5 minutes if no improvement in respiratory depression. Maximum dose 2 mg IM or 2 doses N
5. Continue basic life support until the patient is handed over to ambulance services or other healthcare professional.
   - Monitor breathing, provide oxygen therapy.
   - Monitor vital signs, specifically conscious state, pulse, and blood pressure.
   - When practicable, record observations into the Patient Record.

Post-administration actions

Appropriately dispose of the sharps by placing it in sharps container before placing in medical waste.

Use in sport

Permitted.

Naloxone – intranasal or intramuscular

Note

- The duration of action of naloxone is often less than that of the opioid drug used, therefore repeat doses may be required.
- Be vigilant for biohazard risk from body fluids, or sharps associated with drug use.
- Naloxone products suitable for community or home use (e.g. nasal spray or pre-filled syringes) are available through the PBS but can also be purchased without a prescription. Some states participate in a take-home naloxone program that provides free access to these products. For more information, see: https://www.health.gov.au/initiatives-and-programs/take-home-naloxone-program
- Educational material for non-Healthcare Professionals—see at https://www.penington.org.au/between-us/between-us-overdose-and-naloxone/

Reference

AFA5, Substance Use

Nitrous oxide (Entonox)

Brand name

Entonox

Indications

Relief of severe pain

Contraindications

- Patient is unable to understand or comply with instructions for self-administration.
- Reduced level of consciousness (e.g. head injury, drug affected).
- Delirious or confused patients.
- Suspected pneumothorax.
- Abdominal distension.
- SCUBA diving within last 48 hours.
- Vomiting.
- Impaired airway or chronic airway disease.
- Use with caution if patient is trapped and cannot be accessed. The patient may leave the mask on, lose consciousness and the treating member may be unable to maintain an open airway.

Action

- Analgesic effect within 1–2 minutes.
- Effects wear off quickly once inhalation ceases.
- 50% oxygen increases the oxygen level in blood.

Side effects

- decrease the level of consciousness
- patient may become light-headed, excitable and/or confused
- nausea and vomiting
- if air is trapped in the patient's body, the nitrous oxide will increase size of pneumothorax or air embolism

Presentation

Blue cylinder with white shoulders containing 50% nitrous oxide and 50% oxygen.

Medication route

Inhaled

Nitrous oxide (Entonox)

Administration

- No maximum dose.
- Adult or child: Self-administered via face mask or mouthpiece.
- Ideally, use the mouthpiece as it is more patient-friendly. The mask must be held by the patient so that if the patient loses consciousness, the mask falls away from the patient's face.
- A bacterial filter must be used between the mask or mouthpiece and the T-piece at the end of the corrugated tube. Supervise the patient during administration.
- If the patient is trapped or has injuries preventing self-administration, the mask may be held to the patient's face. If this occurs, the mask must be removed every minute and the patient's level of consciousness checked.

Use in sport

Permitted

Note

- Use caution when administering oxygen near a naked flame, as there is a risk of fire or explosion, or when oil or grease is present.
- At temperatures below 0°C, the oxygen and nitrous oxide may separate. Prior to administration, gently warm the cylinder and invert it several times to mix the gases.
- Patient must agree to be transported to hospital by ambulance service or reviewed by a St John healthcare professional.
- Discontinue use if patient becomes uncooperative, excited, delirious, or drowsy.

Post administration actions

- Turn Entonox OFF at the bottle.
- Dispose of the bacterial filter and mask or mouthpiece by placing in the medical waste.
- Check contents of cylinder and replace if necessary.

Reference

Providing pain management, SJAA, 2020.

Ondansetron (anti-emetic)

Brand names

Zofran

Indications

Nausea and vomiting

Contraindications

- Known allergy to ondansetron
- Patient is currently also using Apomorphine (note this is not a pain medicine, it is used most commonly in the treatment of Parkinson's Disease)

Precautions

- 5HT3 (Serotonin) - antagonist hypersensitivity
- mod-severe hepatic impairment (do not exceed 8 mg/day);
- pregnancy (should not use during 1st trimester);
- lactation (should not breastfeed);
- children < 4 yrs

Action

Anti-emetic

Side effects

- constipation
- headache
- dizziness

Presentation

4 mg tablet / wafer / ODT

Medication route

Oral (as tablet, wafer, ODT)

Administration

- A detailed assessment of vital signs and secondary survey is essential.
- Nausea and vomiting are usually symptoms of another clinical problem—finding the cause is an important aspect of care (eg: cardiac chest pain, anaphylaxis, stroke).
- Manage any underlying conditions that may be the cause of the nausea/vomiting

Ondansetron (anti-emetic)

Administration

1. Rest in a position of comfort.
2. Provide emesis bag and cleaning towels.
3. Oxygen via nasal prongs (usually low flow) can help in some conditions.
4. Hydration is a factor in many presentations. When appropriate, try small oral fluid intake.
5. Consider ondansetron. Adult (12 yrs and over): 4 mg. Single repeat dose: 4 mg after 10 minutes (maximum total = 8 mg)
6. Record drug administration and time on the Patient Record.
7. Continue basic care:
   - Monitor vital signs, specifically conscious state, pulse, and blood pressure.
   - When practicable, record observations onto a Patient Record.
   - Small amounts of oral fluid may be introduced cautiously as tolerated by the patient.
   - Or wafer or orally disintegrating tablet. Place on top of the tongue to dissolve, then swallow.

Note

Nausea and vomiting associated with diarrhoea is suspicious for gastrointestinal illness. Gastrointestinal illness is frequently highly infectious. All staff involved in care should wear contact and droplet PPE. The patient should be managed away from others, and strongly advised not to return to the event due to the risk of transmission to others. Engage a St John Healthcare Professional for advice.

Oxygen

Brand names

Oxygen

Indications

- Assist in resuscitation of non-breathing patient.
- Lack of oxygen due to injury or medical condition (e.g. gas or smoke inhalation).
- Therapy for breathing patient (e.g. unconsciousness, shock, head injury, pregnancy).

Contraindications

None

Action

Gas essential for life.

Precautions

Patients with chronic obstructive pulmonary disease.

Presentation

White cylinder, containing 100% medical oxygen.

Medication route

Inhaled via nasal prongs, therapy mask, non-rebreather mask, BVM, IPPV

Administration

Adult or child where no pulse oximeter is available, or the patient has a critical illness.

Condition	Suggested oxygen rates
• Slight breathing difficulty • Sickness or injury with ongoing vomiting or use of methoxyflurane	• 2–4 lpm via nasal prongs • 15 lpm can be tolerated if higher flow rates are need
• Mild–moderate breathing difficulty • Sickness or injury resulting in breathlessness	• 8 lpm via therapy mask
• Moderate breathing difficulty • Decreased level of consciousness	• 15 lpm via non-rebreather mask
• Gas or smoke inhalation • Diving emergencies	• 15 lpm via non-rebreather mask or 100% via BVM
• Severe breathing difficulty • Shallow or no breathing	• IPPV or 100% via bag/mask

Oxygen

Condition	Suggested oxygen rates
• For patients who do not have critical illness (most patients)	• Where pulse oximeter is available, titrate the flow rate and delivery method to the patient's SpO2 reading. • Confirm a reliable SpO2 trace (with good waveform or green light), and target an SpO2 of 92% or above (88% or above for patients with COPD)

Use in sport

Permitted

Note

- Use caution when administering oxygen near a naked flame, as there is a risk of fire or explosion, or when oil or grease is present.
- The patient's condition determines the appropriate flow rate. When in doubt, use a high flow rate. Some conscious patients may be uncomfortable with high-rate oxygen administered through a therapy mask. If so, consider using nasal prongs.
- Some patients with a decreased level of consciousness, or children, may refuse to have a therapy mask applied. If the patient is uncooperative, hold a therapy mask with oxygen at 15 lpm, close to the patient's face.
- Patients with chronic obstructive pulmonary disease (e.g. emphysema, chronic bronchitis) and in respiratory distress still require oxygen.

Post-administration actions

- Depending on the type of equipment used, turn off the oxygen at the bottle and bleed the oxygen from the oxygen equipment.
- If oxygen resuscitation was used, dispose of the single-use self-inflating bag, bacterial filter and/or mask.
- Appropriately dispose of therapy masks, tubing bacterial filters, any oropharyngeal airways, suction tubes or suction catheters used.
- If suction was used, wash the bottle in warm soapy water followed by an antiseptic solution and air dry.
- Check contents of cylinder and replace if necessary.

Reference

Advanced resuscitation, SJAA, 2020

Paracetamol

Brand names

Panadol, Panamax, Tylenol.

Indications

- temporary relief of mild to moderate pain
- headaches

Contraindications

- Altered level of consciousness (e.g. due to a head injury, drug affected).
- If the patient has already exceeded the maximum daily dosage rates or taken paracetamol in previous 4 hours.
- Known hypersensitivity or allergy to paracetamol.

Precautions

If the patient is taking another medication containing paracetamol (e.g. certain medicines for coughs, colds, sinus congestion, period pain) the presence of paracetamol is declared on the label for these medications.

Action

- reduces pain and fever

Side effects

- nausea, vomiting and allergic reactions in excessive doses
- liver failure in excessive doses

Presentation

Tablet – white 500 mg; soluble

Capsule – white 500 mg; oral

Elixir – variable concentrations are available. The St John standard concentration is 240 mg / 5 ml.

Medication route

Oral

Paracetamol

Administration

Adult	• Self-administered with water. • 1–2 tablets every 4–6 hours. • Maximum dose: 8 tablets in 24 hours.
Child (7–12 years)	• Administered by parent or guardian with water. • ½–1 tablet every 4–6 hours. • Maximum dose: 4 tablets in 24 hours. • Advanced Responders may administer elixir as per instructions on bottle, using a sterile 10 ml syringe.
Child under 7 years	• Do not administer paracetamol tablets. • Advanced Responders may administer elixir as per instructions on bottle, using a sterile 10 ml syringe.

Use in sport

Permitted

Note

Always check the dose before administration as different concentrations exist.

Discharge advice

- If the pain persists, see a Healthcare pProfessional.
- Do not exceed the maximum dosage rates.

Petroleum jelly

Brand name

Vaseline™

Indications for use

Reduce chaffing usually associated with running or riding events.

Contraindications

Sensitivity to petroleum jelly

Action

Moisturising, softening

Side effects

None

Presentation

Jelly in various-sized tubs or sachets

Medication route

Topical.

Administration

1. Apply gloves before administration.
2. Apply jelly directly to the required area.
3. Remove gloves and wash hands.

There is no maximum dose.

Use in sport

Permitted.

Salbutamol — inhaler

Brand names

Asmol, Ventolin

Action

- causes lower airways to dilateAction is within 3–5 minutes
- effects last at least 4 hours

Side effects

- shakes and tremors
- irregular or rapid heart rhythms
- headache and nausea

Presentation

Metered 100 mcg per dose or 'puff'. There are 200 'puffs' in the blue aerosol inhaler.

Medication route

Inhaled

Administration

Adult

1. 4 puffs via spacer every 4 minutes (4 breathes between each puff).
2. If no improvement, repeat at above rate.
3. If severe, administer 6–8 puffs every 4 minutes whilst requesting a St John healthcare professional or ambulance service.

Child (12 years or younger):

1. 4 puffs via spacer every 4 minutes.
2. If no improvement or severe attack, continue giving 4 puffs as above every 4 minutes until a St John healthcare professional or the ambulance service arrive.

There is no maximum dose.

Use in sport

Permitted. Athlete must declare use to ASADA.

Note

- St John members should manage patients as given in *AFA5*, or within their scope of practice/clinical accreditation.
- Ensure a St John Healthcare Professional or ambulance service has been called if there are no improvements after first 4 puffs.
- Disposable, single-use space chambers should be used for each individual patient.

Salbutamol — nebuliser

Brand names

Ventolin

Indications

To relieve shortness of breath (e.g. asthma) when breathing difficulty has not been relieved after administration of salbutamol from an inhaler.

Contraindications

Known allergy or hypersensitivity to salbutamol

Precautions

Nebulised therapy is a vector for spreading respiratory illness (especially viral illness). It should be used with caution, preferably in open or well-ventilated spaces. St John members must wear PPE for contact and aerosol transmission-based precautions.

Action

- causes lower airways to dilateAction is within 3–5 minutes
- effects last at least 4 hours

Side effects

- shakes and tremors
- irregular or rapid heart rhythms
- headache and nausea

Presentation

- 2.5 mL nebule: 2.5 mg
- 2.5 mL nebule: 5 mg

Medication route

Inhaled

Dose

- Adult and children over 5 years old: 5 mg in 2.5 ml nebule
- Children under 5 years old: 2.5 mg in 2.5 ml nebule

Salbutamol — nebuliser

Administration

1. Pour content of 1 salbutamol nebule into nebuliser chamber.
2. Connect nebuliser to oxygen mask.
3. Connect oxygen supply at 8 lpm to nebuliser inlet.
4. Apply nebuliser unit to patient and continue administration until all solution is used. This can take 6–10 minutes.
5. Repeat dose if asthma is not relieved.

Use in sport

Permitted. Athlete must declare use to ASADA.

Note

St John Healthcare Professional or ambulance service should be called if nebulised salbutamol is administered.

Event Health Services
Clinical protocols
September 2022

Sept. 2022