



St John
Here for Life

St John Clinical Procedures and Guidelines Summary of Changes for Doctors and Nurses

Introduction

- This document summarises the significant changes to the St John Clinical Procedures and Guidelines (CPGs) 2016-2018 and is intended for doctors and nurses that commonly interact with St John ambulance personnel.
- The pocket edition is an 'aid memoire' and contains flow diagrams, checklists and drug dose tables. The comprehensive edition contains further detail and additional information.
- The CPGs will be issued to ambulance personnel in late December 2016.
- The education for ambulance personnel on the significant changes will occur between February and July 2017.
- Although this document only applies to the St John CPGs, St John and Wellington Free Ambulance develop the CPGs as a sector and the CPGs that are issued to ambulance personnel in each service are almost identical.
- Electronic copies of the CPGs are available by sending an email to tony.smith@stjohn.org.nz.
- Printed copies of the CPGs will be available from March 2017 via the St John website: <http://www.stjohn.org.nz/Shop/First-Aid-Kits-and-Supplies>.

Analgesia

- Entonox will be discontinued in 2017 and methoxyflurane will be the only inhaled analgesic administered. A timeline for the changeover has not yet been determined and this will be communicated separately.
- Additional cautions have been added to ibuprofen, in order to reduce administration to patients that are elderly and unwell or dehydrated.

Asthma

- IV magnesium will be introduced for the treatment of patients with severe asthma by Intensive Care Paramedics (ICPs).
- Children aged 5 years or younger will no longer be routinely administered prednisone. Prednisone will only be administered if there is a clear history of asthma and the child has previously been prescribed oral steroids.

Chronic obstructive respiratory disease

- Nebulisation of bronchodilators using air as the nebulising gas will be introduced in a progressive manner, starting mid-2017. We see this as a significant advance in patient safety.
- IV midazolam in low doses may be administered sparingly by ICPs for very severe anxiety.

Myocardial ischaemia

- The dose of GTN has been reduced to 0.4 mg (a change from 0.4-0.8 mg) and additional cautions have been added to GTN administration because we were seeing too many patients with adverse effects. In particular, ST elevation myocardial infarction is now a caution to GTN administration and GTN will be withheld if the patient has STEMI and signs of poor perfusion.

ST elevation myocardial infarction (STEMI)

- This section aligns with the national out-of-hospital STEMI pathway that will be introduced in the second half of 2017.
- The principles of the national STEMI pathway are:
 - Ambulance personnel will diagnose STEMI, transmit the 12 lead ECG and complete a checklist.
 - Ambulance personnel will discuss the patient with a designated STEMI Coordinator in each region.
 - The patient will be transported directly to a hospital with the facilities to provide immediate primary percutaneous coronary intervention (PCI), provided it is feasible and safe to transport the patient there within 90 minutes of the diagnosis being made. This will occur even if the patient is in a metropolitan setting and close to another hospital or medical facility.
 - Fibrinolytic therapy will be initiated as soon as possible (either by ambulance personnel or medical/nursing personnel in the closest appropriate medical facility), if it is not feasible or safe to transport to a hospital with the facilities to provide immediate primary PCI within 90 minutes of the diagnosis being made. Following fibrinolytic therapy the patient will be immediately transported to a hospital with the facilities to provide PCI, whenever this is feasible and safe.

Cardioversion

- Ketamine has replaced fentanyl and midazolam for sedation prior to cardioversion because we think this is a safer approach.

Cardiac arrest

- An algorithm for cardiac arrest secondary to trauma has been added. This includes a much greater focus on transport, correcting underlying causes and a de-emphasis on the role of chest compressions.

Post cardiac arrest care

- Additional guidance has been provided on titrating oxygen administration to a SpO₂ of 94-97%, provided there is reliable pulse oximetry. This is to avoid unnecessarily high levels of oxygen at a tissue level, which may cause harm.
- The goals for temperature management have changed and most patients remaining unconscious following a primary cardiac arrest will be covered with a single sheet, aiming to achieve a temperature of 35-36 degrees.

Severe hypovolaemic shock

- We have added arranging for blood to be administered if shock is severe. Currently, blood can only be routinely delivered to the scene by the HEMS team from Auckland, but other sites within New Zealand are very likely to be added within the next few years.

Cervical spine immobilisation

- This section has fundamentally changed and the role of the firm cervical collar has been significantly reduced, even if the patient's cervical spine cannot be cleared clinically.
- A lanyard clearly labelled "cervical spine not cleared" will be placed around the patient's neck if their cervical spine has not been cleared clinically and a firm cervical collar is not being placed. Lanyards will be single use only.
- This is a significant change to current practice and we anticipate this taking some time to 'bed in'.

Major trauma triage

- This section is based on the major trauma triage tool developed by the National Major Trauma Network and provides a structured approach to determining which patients have major trauma.
- Patients with major trauma will be transported to designated hospitals. The designated hospitals will be called 'major trauma hospitals' and have been designated by the Regional Major Trauma Networks. The destination policies associated with this will be implemented in late March 2017.
- Patients may be transported to a medical facility that is not designated as a major trauma hospital, if that medical facility is being used as a staging point (or meeting point) for a helicopter to provide transport to a major trauma hospital. Clinical guidelines on staging for medical facility personnel will be issued by the National Major Trauma Network in early 2017.

Finger thoracostomy

- Finger thoracostomy will be introduced to the delegated scope of practice for ICPs.
- Finger thoracostomy will be an option for decompression of tension pneumothorax, particularly in the settings of: failed decompression with a Turkel needle (the existing technique of decompression), tension pneumothorax when the patient is ventilated via an endotracheal tube (ETT) and cardiac arrest following trauma.

Agitated delirium

- A tiered approach based on the level of the patient's agitation has been introduced.
- If the level of agitation is mild and the patient will take an oral medicine, oral olanzapine can be administered and this will be introduced to the delegated scope of practice for Paramedics and ICPs.
- If the level of agitation is moderate or the patient will not take an oral medicine, IM midazolam can be administered. IM midazolam for agitation will be introduced to the delegated scope of practice for Paramedics.
- If the level of agitation is severe, IM ketamine can be administered.

Poisoning

- The intra-nasal route for naloxone administration has been removed as an option in both adults and children, because we have found absorption to be too unreliable.

Seizures

- IV midazolam for seizures will be introduced to the delegated scope of practice for Paramedics.
- IV sodium valproate for status epilepticus will be introduced to the delegated scope of practice for Paramedics and ICPs. Valproate will be administered if the patient has status epilepticus after two doses of midazolam.

Septic shock

- Ceftriaxone will be withdrawn and replaced by gentamicin and amoxicillin/clavulanic acid, enabling much better anti-microbial coverage than with ceftriaxone alone.
- The threshold for antibiotic administration has been raised, so that in order for antibiotics to be administered, the patient must clearly have septic shock and be more than thirty minutes from hospital, including extrication time.
- The antibiotics administered will be determined by the source of the septic shock:
 - Amoxicillin/clavulanic acid will be administered if the source is meningococcal septicaemia, the soft tissues, a joint or the chest.
 - Amoxicillin/clavulanic acid and gentamicin will be administered if the source is the urinary tract, the abdomen or is unknown.

Neonatal resuscitation

- We have re-introduced intubation with an ETT as an option, noting that ventilation via an LMA remains the preferred approach provided this is feasible.
- We have re-introduced IV adrenaline, noting that this has a very low priority.

Rapid sequence intubation (RSI)

- All RSIs will now be performed using fentanyl and ketamine as the induction medicines. Midazolam will no longer be used for induction of RSI as we were seeing too many patients developing hypotension.

Post intubation

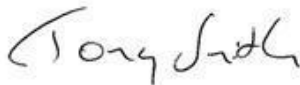
- There are new ETCO₂ targets based on the patient's primary clinical problem.
- Ketamine has been added as an option for post intubation sedation if the patient has clinically significant shock.
- Additional guidance has been provided on ensuring a safe ETT cuff seal, because we are seeing too many ETTs with a high cuff pressure. We recommend that the cuff pressure is measured as soon as possible after arrival in hospital.

Stroke

- The patient will be transported to a designated hospital provided the patient can reach that hospital within 4 hours of the time of symptom onset (a change from 3.5 hours).
- The designated hospitals will be called 'hyper-acute stroke hospitals' and these have been designated by the Regional Stroke Networks. The destination policies associated with this will be implemented in the first half of 2017.

Additional information and questions

- If you would like additional information I encourage you to read the relevant section of the comprehensive edition of the CPGs.
- If after reading the comprehensive edition you would like additional information or would like to ask questions, send an email to tony.smith@stjohn.org.nz and include a contact phone number.



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