

**Synopsis of education session for Perioperative Nurses Association of Queensland – Downs & South West Branch
Management of Laryngospasm
14th February 2009
Presented by Dr Richard Geytenbeek**

Dr Richard Geytenbeek is the anaesthetist in charge of the recovery unit at the Toowoomba Base Hospital Operating Theatre. Richard emigrated from South Africa and has a wealth of experience and knowledge in anaesthetics. Dr Geytenbeek presented the members with a very informative and interesting education session on the Management of Laryngospasm. During the session Richard provided many real life examples of situations relating to the topic particularly placing much emphasis on importance of factors such as smoking and URTI that greatly influence anaesthetic outcomes for individuals of all ages. It was also clear that prior to any surgery anaesthetic history taking and review is also vital to individual outcomes. In summary Laryngospasm is more prevalent in younger individuals and may occur in patients of any age at induction or emergence from anaesthesia. Below is an outline of the points discussed during the education session including Management of Laryngospasm.

Fink suggests that true Laryngospasm is **a form of airway obstruction caused by contraction of the extrinsic muscles of the larynx which encroach on the larynx in a ball valve like fashion.**

Incidence:

- Occurs more frequently in younger individuals with the highest incidence in infants aged 1 – 3 months
- May occur in a patient of any age at induction or emergence from anaesthesia.
- Children with a URTI are extremely high risk of developing a Laryngospasm therefore anaesthetists are usually very cautious about giving anaesthetics to children that have URTI symptoms.
- Laryngospasm may be life threatening in patients with limited cardio respiratory reserve and should be avoided in all patients.
- Although many anaesthetists consider it is a self-limiting condition patients with a laryngospasm can have a cardiac arrest.

Factors that may influence the develop of a Laryngeal Spasm

- Anaesthesia that is too light.
- Premature extubation during excitement phase.
- Semicomatose state – increased muscle tension
- Aspiration
- Presence of an Naso Gastric Tube
- Presence of a URTI in children
- Premature application of a tourniquet or a rectal examination in a lightly anaesthetised patient may be sufficient.

Preventative Measures:

- Extubation should be carefully timed in children and all external stimuli should be avoided in a child emerging from anaesthesia.
- The child should be able to open their eyes before extubation.
- Extubate when the child is breathing regularly with a conjugate gaze and waking (eye opening).
- Lignocaine 2mg/kg IVI within 2-3 mins of extubation may reduce the tendency towards laryngospasm.

Signs & symptoms:

- Rapid desaturation usually with little warning (there is no movement of air or CO₂ and therefore O₂ Sats decrease rapidly)
- Relatively silent phenomenon characterised by strenuous respiratory efforts similar to those observed in a choking patient (A stridor is manifested by a crowing sound of varying pitch).

Management:

- Call for assistance.
- Apply suction if secretions are present.
- Increase the Oxygen flow.
- Apply jaw support.
- Remove the tube if the patient is near to waking as it often removes the cause of the irritation.
- Place patient on their left side. (Not right side due to the anatomy of the bronchi and risk of aspiration).
- Apply C Circuit and mask with oxygen at 100%.
- Have Succinylscoline and Propofol prepared.
- Have equipment ready for re-intubation if necessary.

- PPV is generally ineffective during the acute period but is given because when the spasm breaks the CO₂ may be immediately delivered.
- If no IV access the IM route is chosen 4mg/kg.
- Mechanical method: Place the middle finger of each hand in the “laryngeal notch”. The notch is behind the lobule of the pinna of the ear. Press firmly inward towards the base of the skull with both fingers while at the same time applying the jaw thrust manoeuvre. Properly performed it will convert laryngospasm with 1-2 breaths to laryngeal stridor and in another few breaths to unobstructed respirations.

It is important to note that spontaneously breathing patients may develop Negative Pressure Pulmonary Oedema following Laryngospasm.



At the conclusion of the education session 10 minutes were allowed for question time. Richard was thanked for presenting this education session to PNAQ members as it was much appreciated that he gave up his valuable time and that of his family especially on Valentines Day. He was presented with a bottle of wine and chocolates.