

Major benefits of the airtraq health and social care essay

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The undermentioned entry lineations my proposal to present the AirtraqA® Video Intubation (Airtraq by Prodol, 2010) device into the Airway Management Clinical Practice Guidelines of Ambulance Victoria.

Endotracheal Intubation (ETI) has ever been considered the gilded criterion of airway direction and is presently a MICA merely skill. My proposal is to present a new piece of equipment which will non merely do it easier for MICA trained paramedics, but may take to ALS paramedics one twenty-four hours besides being accredited in ET cannulation. At present Ambulance Victoria do non use any picture laryngoscopy equipment, alternatively trusting on the standard Macintosh laryngoscope and perfect line of sight of the vocal cords to execute the cannulation.

Clinical grounds has shown that with the usage of the Airtraq Guided Video Intubation tool successful in increasing cannulation rates, even in awaited hard instances. The Airtraq device is compatible with IFS and RSI cannulations and has even been used in awake patients following consumption of a lignocaine solution. They have been used in morbidly corpulent patients, patients fitted with cervical neckbands, patients restrained in autos following MVA 's, and pediatric instances to call a few. They have besides been used as portion of a failed cannulation drill after direct laryngoscopy cannulation was non achieved.

This proposal aims chiefly to present the Airtraq as the standard tool used by AV for cannulation, or neglecting that, as the following measure during a hard patient following the failed cannulation bore CPG before making for the cricothyroidotomy scalpel.

Kind respects,

Background

ETI is an intricate accomplishment that requires pattern and apprehension in order to execute and keep the proficiency. To set up or keep a patent airway a soft plastic tubing is threaded past the patients vocal cords and into the windpipe. Different methods of interpolation apply and scope from necessitating general anesthesia or local anesthesia to none at all referred to as an awake cannulation. Currently cannulation in Ambulance Victoria is reserved merely for MICA officers due to the terrible reverberations if it is non performed right. However, it is a basis of advanced airway direction and indispensable in clinical scenarios where the patients air passage is compromised or oxygen bringing is imperative such as traumatic encephalon hurt. The accomplishment is non merely used in the prehospital scene but predominately in exigency sections worldwide which is where the bulk of our informations has been sourced from. Paramedics are invariably required to cannulate in less than ideal fortunes out in the field. Any device or tool that would be helpful in helping cannulation and consequence in fewer complications or troubles should be considered earnestly.

Macintosh Laryngoscope (Dimeda, 2009) Previous surveies show that paramedic pupils executing traditional Macintosh cannulations required extended preparation that may turn out to be financially unrealistic for an establishment (Warner et al. , 2010) . The survey reported that in order to accomplish high success rates of first-pass ETI, drawn-out preparation plans and patient exposure was required. Whilst it was fortunate that the peculiar

university carrying on the survey was attached to an adjoining infirmary, obtaining in-hospital patients to pattern upon may be far more ambitious for most other preparation plans and universities.

So what makes the Airtraq different?

The Airtraq is preponderantly based upon the Macintosh laryngoscope design. Both are long metallic blades aimed at making the groove channel to let for a good visual of the vocal cords. However the differences between the two designs and the subsequent positive consequences are good documented.

AirtraqA® Laryngoscope

(Enayah, 2010) There is marked curvature toward the tip of the Airtraq blade, ensuing in less manoeuvring and force per unit area during interpolation, hence supplying less opportunity of dental injury. More significantly, the in-built optical camera placed at the distal tip of the blade is designed to give the best possible position of vocal cords with the mini proctor built into the grip of the device. The two most common landmarks used during interpolation (vallecula channel for Macintosh and epiglottis for Miller blade) can both be used with the Airtraq, doing it a really various pick for those coming to work in Victoria from interstate or abroad ambulance services.

There is the option of an extra radio proctor to give a larger image of the camera position and provides a docking station in instance charging is required. It besides integrates an anti-fog system to give the best

opportunity at a clear position. Additionally the Airtraq is a individual usage disposable device that wholly cuts out any cross-contamination hazards that may originate due to improper cleansing after usage.

A survey performed in the UK comparing proficiency of medical pupils with no anterior advanced airway direction preparation, provides cardinal grounds in favor of the Airtraq being used amongst ALS and MICA crew likewise. The survey compared a scope of state of affairss including normal air passages in supine place, left sidelong place, during cervical immobilization and in a pharyngeal obstructor scenario. They so evaluated the figure of cannulation efforts, figure of optimization tactics (seting of the caput, bougie, helper) , continuance of the cannulation efforts and dental injury caused (Maharaj, Costello, Higgins, Harte & A ; Laffey, 2007) . Across the board there were better consequences recorded with the Airtraq - pupils stated it was easier to utilize, they had less trouble, cannulation times were shorter and tactics and incidence of dental injury were significantly lower compared to the Macintosh laryngoscope.

The survey so went on to re-test the participants in 6 months clip in order to measure a `` impairment in cannulation accomplishments " (Maharaj et al. , 2007) . Consequences in favor of the Airtraq once more proved positive, frequently demoing about dual the success rate when utilizing the Airtraq. 90 % of Airtraq cannulations required zero optimization maneuverers compared to 50 % whilst utilizing the Macintosh.

This information tells us that there is the possible to do ETI far easier and safer for paramedics whilst utilizing this tool compared to the current

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Macintosh laryngoscope. It so shows us that because of the design of the Airtraq, even if the medical practitioner has non used the device in a important clip, they are more likely to be able to cannulate right and rapidly utilizing the Airtraq. This would be wondrous good for those MICA staff that have n't performed ETI for a piece and are experiencing rusty. It besides shows possible that possibly in the hereafter, ETI could perchance be introduced to ALS paramedics provided a thorough and supportive preparation plan can be provided.

Major benefits of the Airtraq

As the population becomes older, less active and increasingly more corpulent, new techniques and get bying schemes will necessitate to be devised to battle progressively hard cannulations. Taking patients that were undergoing bariatric surgery, a survey was performed to find the best manner in which to use the Airtraq in respects to way of interpolation (Dhonneur et al. , 2007) . In mean leaden patients it is practical to utilize the standard method of laryngoscope interpolation without excessively many complications. However in morbidly corpulent patients a somewhat different method was developed to battle the extra fatty tissues barricading the throat. The blade can be inserted with the curve rotated 180A° prior, so rotated into the normal pharyngeal place known as a contrary tactic. This process was shown to diminish cannulation times during the survey which is ideal and implies that the patient will hold the shortest clip possible in between oxygenation and airings with this method. Difficult cannulations including corpulent patients have been reported to take 4 times every bit long as standard cannulations (Dhonneur et al. , 2007) so safely and

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efficaciously cut downing interpolation times is overriding when researching new methods and tools.

An extended survey was performed to find if the Airtraq truly was every bit adept as it claimed to be when used in concurrence with patients that has suffered from spinal hurts and had later been fitted with cervical neckband. The survey was performed utilizing patients undergoing surgery whom had no anterior or current spinal injury. Alternatively motions between occipital and cervical sections were measured utilizing skiagraphy and the information was recorded in grades of angle (Hirabayashi, Fujita, Seo & A ; Sugimoto, 2008) . Again, this research compared between the Macintosh laryngoscope and the Airtraq. Whilst both devices used did make some extension motion when cannulation was performed, the Numberss were still lower and in favor of the Airtraq. The research workers used the patients impersonal head place as the baseline figure and found that divergences in spinal angles were smaller, sometimes up to 40 % compared with the Macintosh. The article besides finished by saying that the troubles in go throughing a ET tubing down through the vocal cords utilizing a Macintosh blade (being unable to put patient in the sniffing place) would ask significant and accordingly, a important angulation of the laryngoscope (Hirabayashi, 2008) . However in contrast the Airtraq has a built in counsel channel for weaving the ET tubing into the windpipe when cords have been adequately visualised. This would ensue in a decrease of motion bing less possible for spinal hurts caused by cannulation injury. Whilst old surveies had recorded and analysed the clip it took to execute cannulation with

Airtraq (Nowicki et al. , 2009) , this survey specifically showed scope of motion alternatively of clip and velocity.

Discussion and Decision

The information gathered in this proposal is designed to demo the board that the Airtraq device has superior effectivity when comparing cannulation consequences against the standard Macintosh laryngoscope.

The curvature of the blade and camera make it far easier to visualize vocal cords whilst the patient is supine or even sitting.

Cannulations performed were systematically faster and required fewer efforts than normal.

The Airtraq system has proven it has a rapid acquisition curve with novitiates and professionals likewise being able to visualize class 1 cords rapidly, easy and still be far more effectual than the options at a ulterior day of the month after nothing exposure.

The device has shown its ego to be the preferable tool when cannulating the corpulent or spinally immobilised.

It was documented that the Airtraq did non raise blood force per unit area up by 50mmHg after cannulation unlike its Macintosh equivalent (Maharaj et al. , 2008) .

The Airtraq caused less dental injury and soft tissue hurt.

Was suited and encouraged during hard cannulations state of affairss such as spinal hurts, corpulent patients, tissue hydrops

These points and more are presumptively what a paramedic would look for in an cannulation tool if given the option. If given the pick between what is presently in usage and the easier, safer and more various option, the Airtraq appears to be a clear victor. Compatible with both IFS and RSI guidelines the Airtraq would comfortably steal into our presently used cannulation CPG 's and could potentially replace the Macintosh wholly. The possible cost factors at buying the disposable tool would hopefully be seen as secondary to its benefits for both the patient and the paramedic. Logistically buying the new device would hold to be determined informations exposing how many cannulations MICA performs on a regular footing. Using the Airtraq would potentially alter the manner we think about cannulation and let it to go incorporate into the ALS accomplishment set. More research would be required into uniting the Airtraq without the terrible paralytic drugs such suxamethonium used in RSI and whether it could be a possible option for ALS paramedics.

Considerations for extra CPG information are included below.

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