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New Hampshire EMS Information Bulletin 11

DATE: May 17, 2010

SUBJECT: Cricothyrotomy eliminated from 2011-2012 Protocols

TO: New Hampshire EMS Providers, EMS Unit Leaders, Medical Directors and EMS Hospital Coordinators, The NH Emergency Medical and Trauma Services Coordinating Board, The NH Medical Control Board

FROM: Douglas McVicar, MD, Chair, NH EMS Medical Control Board

At its 18 March 2010 meeting the New Hampshire EMS Medical Control Board voted to remove all forms of cricothyrotomy from the 2011-2012 Patient Care Protocols.

This decision means that early next year, when the next edition of the Protocols goes into effect, cricothyrotomy can no longer be practiced, and cricothyrotomy equipment should be removed from ambulances and jump kits. This applies to all types of cricothyrotomies, including percutaneous (needle) cricothyrotomy, commercial kit cricothyrotomy of all types, and "surgical" cricothyrotomy procedures, which are defined as those employing a scalpel or blade to make a skin incision. Tracheotomy – direct opening of the trachea itself – has never been part of New Hampshire Statewide EMS Protocols.

Our decision on cricothyrotomy was one of the most difficult we have had to make. Our review of this issue went on for over a year, and included discussion, debate and evaluation of large amounts of evidence from the literature, the field (nationally and in New Hampshire), the experience of Medical Control Board members, particularly our surgeons, and the experience of the New Hampshire EMS community. The final vote was 8 in favor of elimination and 3 against – reflecting the fact that although our discussion ultimately led to a clear majority consensus, the decision was not unanimous.

The Medical Control Board was unable to find any adequately designed study that demonstrated a survival advantage with cricothyrotomy over other types of airway management. Moreover, in New Hampshire, cricothyrotomy has only rarely been performed, averaging just once or twice per year. The cricothyrotomy complication rate in New Hampshire since 2005 has been

approximately 50%. We found no case where a life had been saved by cricothyrotomy.

There is a significant cost to cricothyrotomy. Commonly used commercial kits are quite expensive, and many are dated and need to be replaced periodically if not used. A more important cost is the time required for skill acquisition and maintenance. It is a long-standing policy of the Medical Control Board and NH EMS that EMS resources – both money and time – are limited and must be directed to provide the maximum benefit to patients and providers.

The Board also considered the dangers of cricothyrotomy. Invasive procedures in the neck are obviously fraught with hazard. One of our board members has for many years been responsible for teaching surgical residents operative techniques, including surgical airways. He stated that even surgical residents have difficulty mastering and maintaining cricothyrotomy skills. Other members with experience teaching this procedure expressed similar concerns. Although our review of prehospital cricothyrotomies in New Hampshire fortunately found no case in which a patient's death was caused by a cricothyrotomy, the Board agreed that severe patient harm could occur in the future.

Finally, although the Medical Control Board pays careful attention to national standards, we sometimes must make exceptions. This is particularly the case if national standards are changing, or if we face unique factors in New Hampshire that are not well reflected in the national experience. So while the *National EMS Scope of Practice Model* (NHTSA DOT HS 810 657 - September 2006) still does include percutaneous cricothyrotomy, it is important to note that the trend is away from this type of airway management. Not only has the literature on surgical and percutaneous airways trended less enthusiastic since the 1990s, but so have national guidelines. For example, the 1998 *EMT-Paramedic National Standard Curriculum* (DTNH22-95-C-05108) included open cricothyrotomy, whereas this procedure was removed from the 2006 *National EMS Scope of Practice Model*.

In summary: cricothyrotomy is a potentially dangerous procedure which does not save lives in New Hampshire. It draws resources away from other airway management skills which are more likely to be effective. The Board believes that the airway management skills of New Hampshire providers are excellent and that the record shows successful airway management is accomplished on a daily basis, even in the toughest cases, using the available non-cricothyrotomy airway modalities.

More detail about the Medical Control Board's deliberations on cricothyrotomy is available in the meeting minutes published on the New Hampshire Bureau of EMS website. (www.nh.gov/safety/divisions/fstems/ems/index.html)

The Board would like to thank all the paramedics, hospital EMS coordinators, medical control physicians, and others who answered one or more of our calls for input on this issue.