



Supraglottic Airway Devices in Tactical Emergency Casualty Care Position Statement

Airway compromise is the second most common cause of potentially preventable death in combat, accounting for 7.9% of all these deaths [1]. In the civilian pre-hospital environment, advanced airway interventions occur in 0.6% of calls, with an overall success rate of 89.1% [2]. Data from US law enforcement tactical incidents indicated that endotracheal intubation was performed in 30 patients, while nasopharyngeal airway placement was performed in 17 patients [3]. As such, although infrequently performed when considering *all* EMS calls for service, airway management remains a critical life-saving intervention in the civilian pre-hospital environment.

On 25 January 2024, the Committee on Tactical Combat Casualty Care (CoTCCC) released a guideline update [4]. One significant change was the removal of supraglottic airway (SGA) devices from the Tactical Field Care airway management guidelines. Airway interventions are now limited to suction, positioning, and if unsuccessful, surgical cricothyroidotomy. Before the publication of this update, dating back to 2012, Tactical Combat Casualty Care (TCCC) guidelines recommended the use of nasopharyngeal airways and/or supraglottic airway devices prior to definitive surgical airway management [5]. As such, the current change may be viewed as surprising, particularly given the substantial failure rate for surgical airways in both the military (67% success rate) and civilian (52.9% success rate) environments [2,6], and the speed benefit and military end-user preference for supraglottic airway devices [7].

Although an explicit rationale for this change has not yet been published, it is important to recognize significant differences in military and civilian high-threat medical care and operational environments. These include differences in scope of practice and liability, medical protocols, patient populations, evacuation times to definitive care, and wounding patterns. Mabry et al. noted that "[if] patients on the battlefield are obtunded enough to tolerate a SGA, they likely have profound hemorrhage [*sic*] shock and/or significant traumatic brain injury. The likelihood these patients will survive with a favorable outcome is extremely small [8]." Most military medics do not have the capability to perform drug-assisted airway management, thereby limiting their options for advanced airway management [8,9]. Maxillofacial trauma may prevent the effective use of supraglottic airway devices [10-13]. Logistically, the large size of many supraglottic airway device packages may be problematic for military operational use, especially considering the compact size of a modern cricothyroidotomy kit [14]. Lastly, supraglottic airway devices are less frequently used than other airway adjuncts in the combat setting and may be associated with worse outcomes [15-18].

Presumably, based upon these and other factors, the CoTCCC has deemed it appropriate to remove supraglottic airway devices from their guidelines. However, in the civilian arena, supraglottic airway devices remain a foundational cornerstone of advanced airway management at all echelons of care. Supraglottic airway devices are considered the primary rescue airway for failed or difficult airways [19-21]. As an offshoot of this rescue role, supraglottic airway devices can be used in lieu of endotracheal intubation during rapid sequence induction, a technique referred to as rapid sequence airway. In contrast to the reality previously noted by Mabry et al., civilian protocols for drug-assisted airway management enable an extended role for supraglottic airways in civilian emergency airway management [22-24].

The Committee on Tactical Emergency Casualty Care (C-TECC) guidelines incorporate an all-hazards definition of the high-threat environment. Tactical Emergency Casualty Care (TECC) does not focus solely on firearm and blast trauma, but on any potential threat environment to the patient and responder, including chemical poisonings and structural collapse. Although much of the civilian literature comparing endotracheal intubation and supraglottic airway devices involves out-of-hospital cardiac arrest,

supraglottic airways have been found to be equal to or better than endotracheal intubation [25-27]. These findings have been attributed to both the speed of placement and the increased likelihood of first-pass success.

In 2022, the National Association of EMS Physicians (NAEMSP) released a position statement supporting the use of supraglottic airway devices by pre-hospital care personnel as either a primary or secondary advanced airway intervention, including the use of drug-assisted management in certain cases [28]. This document explicitly states, "EMS agencies that perform endotracheal intubation must also equip their clinicians with SGA devices and ensure adequate training and competence." This position statement was recently followed by a comprehensive evidence-based guideline for pre-hospital airway management, which again advocated for using supraglottic airway devices for both primary or secondary airway management [29].

In contrast to supraglottic airways, surgical airways are infrequently performed in the civilian setting. The continuing education required to maintain competency in surgical airways is much greater than that required for supraglottic airways. For many systems, the cost and/or lack of availability of appropriate training may be insurmountable barriers to operationalizing this procedure. Moreover, the civilian scope of practice environment is much more locally dependent than the military environment in which TCCC was developed. Many civilian responders are prohibited from performing surgical airways due to scope of practice limitations. The National EMS Scope of Practice Model document explicitly forbids cricothyrotomy until the paramedic level [30]. According to 2022 data, only 25.6% of responders certified by the National Registry were paramedics [31].

Lastly, TCCC guidelines are primarily involved with initial resuscitative efforts prior to transport. Although TCCC guidelines include a Tactical Evacuation Care section, this now forms a separate document managed by the Committee on En-Route Combat Casualty Care. In contrast, due to the nature of the civilian sector of operations, TECC guidelines actively include evacuation care guidelines using both medical and non-medical platforms.

For all these reasons, recognizing the due diligence of the CoTCCC in determining operational medical needs in the combat setting, TECC guidelines will continue to incorporate the use of supraglottic airway devices in the Indirect Threat Care and Evacuation Care phases of care.

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