Michelle – Chevalier Jackson's choking doll

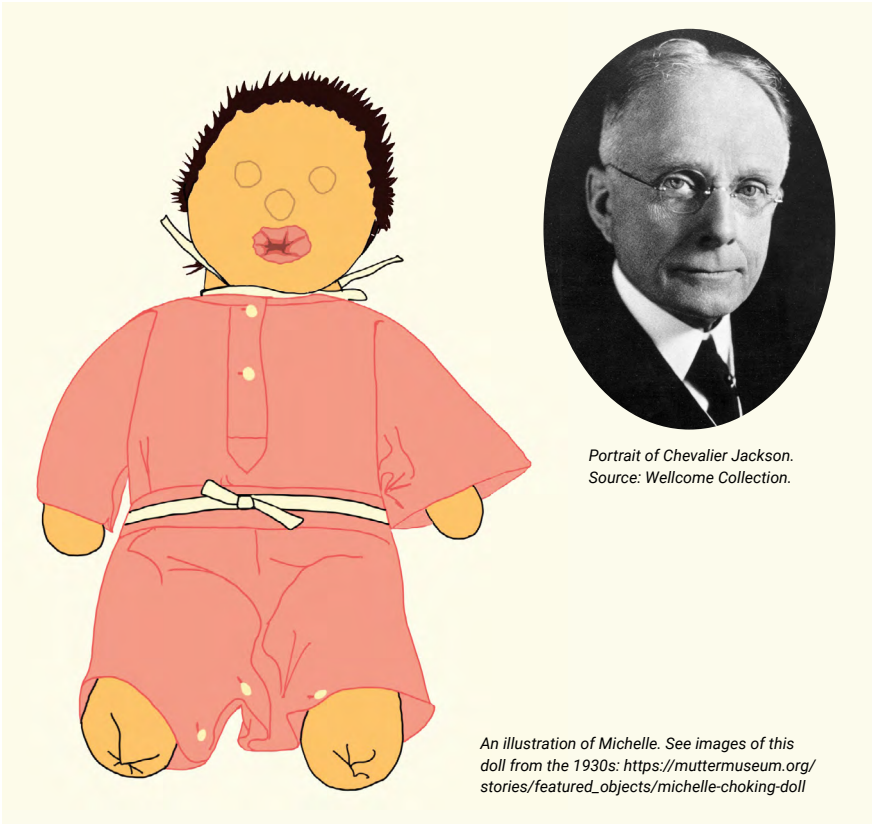
Simulation in paediatric airway management 100 years ago

BY ALI NAHIYEH

Simulation has become an indispensable tool in modern paediatric airway management as it offers clinicians the opportunity to practise complex procedures in a safe, controlled environment [1], although challenges will always remain in replicating the true anatomical proportions and tactile realism of a child's airway [2].

This year marks the 101st anniversary of Dr Chevalier Jackson's donation of his remarkable collection of 2374 inhaled or swallowed foreign bodies to the College of Physicians of Philadelphia, now held by the Mütter Museum [3]. As well as the foreign bodies, it includes 'Michelle', a fabric demonstration doll representing an important piece of airway simulation history. Dr Jackson (1865–1958), spent over 70 years developing innovative methods and instruments for removing foreign objects from the airways, oesophagus and lungs, often without the need for anaesthesia. His techniques dramatically reduced the risks associated with airway extraction and set new standards for patient safety [4]. 'Michelle', the 'choking doll' was sewn together by Jackson's French assistant Angele Piquenais and was designed to simulate a child patient with a small trachea and oesophagus. Jackson used the doll to demonstrate techniques for removing foreign objects and to teach procedures such as emergency tracheotomy. Allegedly, the doll's throat still bears the scar from one such demonstration!

Michelle allowed Jackson to educate generations of medical students and colleagues, enabling realistic, hands-on practice long before the advent of modern simulation technology. In an era in which artificial intelligence and predictive analytics promise to improve outcomes, the Chevalier Jackson Collection also reminds us of the importance of a meticulous approach to medical data collection to advance knowledge and practice. Each item in the 2374 foreign bodies, ranging from safety pins and buttons to coins, toy parts and bones, was carefully catalogued by Dr Jackson with details of the patient's age, sex, the type of each object and its precise location, in addition to anaesthetic details and extraction time.



An illustration of Michelle. See images of this doll from the 1930s: https://muttermuseum.org/stories/featured_objects/michelle-choking-doll

Portrait of Chevalier Jackson. Source: Wellcome Collection.

His records provided an invaluable resource for other colleagues, especially when broncho-oesophagology was in its infancy, and helped to standardise approaches to airway emergencies.

They also show that choking hazards have not changed much!

In 1909, he systematically analysed operative techniques, identifying factors that contributed to complications and mortality in tracheostomy.

Over a century since Michelle was handmade, Jackson's collection reminds us that progress in ENT is built on both tradition and innovation. Simulation, accurate data collection, teaching and continuous improvement remain the cornerstone of paediatric airway management. Although no model can still perfectly replicate the complexity of a real paediatric airway emergency, continued practice, structured feedback and ongoing refinement remain essential for building the surgical expertise necessary to tackle a significant cause of infant and child death.

References

1. Wollstein Y, Jabbour N. Building surgical expertise through deliberate practice. *Ear Nose Throat J* 2022;**101(9 suppl)**:47S–51S.
2. Myer 4th CM, Jabbour N. Advanced paediatric airway simulation. *Otolaryngol Clin North Am* 2017;**50(5)**:923–31.
3. Agarwal R, DeBoer E, Chiang T. Bronchoscopy training and simulation for medical education. In: Hayes Jr D, Meister KD. *Pediatric Bronchoscopy for Clinicians*. Boca Raton, USA, CRC Press; 2022:131–40.
4. College of Physicians of Philadelphia. The Chevalier Jackson Collection. https://muttermuseum.org/on-view/chevalier-jackson-collection [Link last accessed October 2025].

AUTHOR

Ali Nahiyeh, MBBS (Hons),
ENT Research Fellow, Wythenshawe Hospital, Manchester, UK.