

16 Milestones—10 Years

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Emergency medicine is the youngest specialty in Canada and, as such, has had many milestones in the last 10 years. Here are 16 of the major ones (Table 1).

1. The Canadian head and C-spine rules and the Ottawa ankle and knee rules:

These guidelines for radiologic investigations have allowed emergency physicians to safely decrease costs, unnecessary radiation exposure, and emergency department (ED) waiting times for a large group of patients.¹⁻³

2. Rapid sequence intubation: The use of paralytic medications, in conjunction with sedatives to optimize conditions for endotracheal intubation in the ED has vastly improved success rates and patient safety in the field of emergency airway management. The development of courses to train physicians how to do this safely has

brought this practice into the potential domain of any physician providing emergency care.⁴

3. Clinical practice guidelines to guide the need for hospitalization of patients presenting with pneumonia:

These guidelines, based on the pneumonia severity score, have provided an evidence-based approach to determine prognosis and help us to make safe and cost-effective decisions regarding the treatment of community-acquired pneumonia.⁵

4. The use of fibrinolytic agents in acute ST elevation myocardial infarction (MI):

This has moved from the cardiac care unit into the domain of the emergency physician. Following the “time is muscle” philosophy, this practice has greatly improved the time to treatment for these patients, without sacrificing the standard of care.⁶

Emergency medicine has taken the lead in developing strategies to avoid cognitive error. We have strategies to identify error-producing situations and ways of thinking.

5. The resurrection of the use of Bayesian theory and adaptation, thereof, for the use of clinical decision-making: Bayesian theory implies that the use of a test depends on the probability of the illness in question being present in the patient before the test is performed. Emergency physicians have been taught that no one test will always be appropriate to rule in or out the same diagnosis. This mode of thinking has been refined for the approach to thromboembolic disease and expanded to the investigation of other presenting conditions, such as chest pain of possible cardiac origin.^{7,8}

6. Error recognition and prevention: Medical error is a particular hazard for physicians working in the ED. With its frequently chaotic environment, the ED has been described as “a natural laboratory for medical error.” We now have ways to examine how we are thinking and strategies to identify error-producing situations and patterns of thinking that can be avoided.⁹

7. Reducing “door to treatment” times in patients with systemic infections: We have recently recognized that early and aggressive therapy in critical infections is of paramount importance. Delay in instituting the first dose of antimicrobials in patients with infectious syndromes has been associated with worse outcomes. “Door to treatment” times for diseases like pneumonia, meningitis, urosepsis, cellulitis, and septic shock have become accepted indicators of the quality of emergency care provided.^{10,11}

8. Overdose management: Activated charcoal (AC) and gastric lavage (GL), long accepted

Table 1

16 milestones in emergency medicine in the last 10 years

1. The Canadian head and C-spine rules and the Ottawa ankle and knee rules
2. Rapid sequence intubation
3. Clinical practice guidelines to guide the need for hospitalization of patients with pneumonia
4. The use of fibrinolytic agents in acute ST elevation MI
5. The resurrection of the Bayesian theory
6. Error recognition and prevention
7. Reducing “door to treatment” time in patients with systemic infections
8. Overdose management
9. New paradigms in the management of severe head injury
10. Improvement of trauma outcomes through the optimization of trauma systems
11. Use of analgesics in patients with undifferentiated abdominal pain or trauma
12. Procedural sedation in the ED
13. Use of “Not yet diagnosed”
14. Recognitions of the limitations of history and physical findings in the triage of patients with chest pain
15. The use of “Do not resuscitate” orders to decide on the extent of care to the critically ill
16. ER—the television show!

MI: Myocardial infarction

standards of care in the initial management of orally ingested toxins, have been added to the “only in certain circumstances” category. Their use has been restricted to certain medications, and only if administered a very short period after ingestion.^{12,13}

9. New paradigms in the management of severe head injury: We now recognize that hypoxia and hypotension double mortality in head injury and have abandoned the concept of focusing on reducing intracranial pressure (ICP) in favour of treating cerebral perfusion pressure (CPP). Consequently, the routine use of hyperventilation to reduce ICP has been abandoned, as it has been found to reduce CPP. Early endotracheal intubation has been shown to decrease the risk of death in isolated severe traumatic brain injury by up to 50%.¹⁴

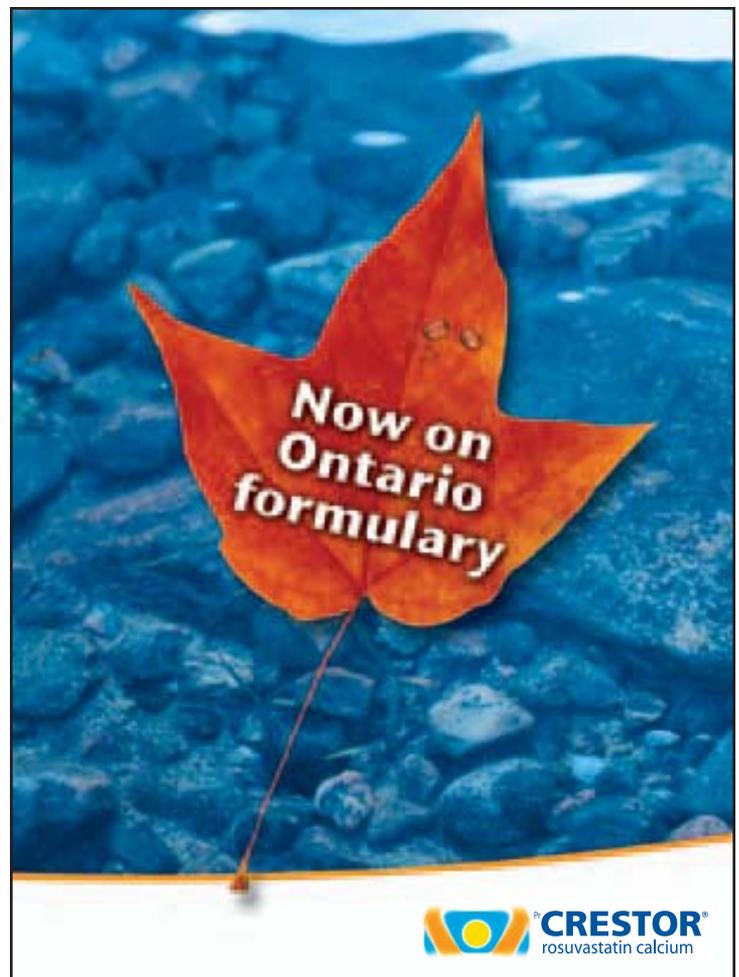
10. Improvement of trauma outcomes through the optimization of trauma systems: By refining pre-hospital triage and stabilization, trip destination policies (bypass to designated trauma centres), and an organized team approach to emergency trauma management, outcomes in major trauma have been greatly improved.¹⁵

11. Using analgesics in patients with undifferentiated abdominal pain or trauma: In recent years we have seen the rejection of the unfounded and cruel, yet time-honoured, practice of withholding narcotic analgesics in patients with pain for fear of disguising clinical findings.¹⁶

12. Procedural sedation in the ED: Numerous painful procedures are now safely done in the ED (according to approved institutional protocols) that 10 years ago would have entailed a trip to the operating room, or a painful procedure performed with inadequate analgesia (for fear of respiratory or cardiac depression or airway compromise).¹⁷

13. “Not yet diagnosed” or “NYD”: Emergency physicians no longer feel obliged to give diagnostic labels to patients in whom diagnosis is unclear at the time of disposition. The dangers of a label made on the basis of incomplete clinical information during a hurried ED consultation have been acknowledged. The concept of conceding clinical uncertainty by writing “NYD” after a patient’s presenting symptom as a discharge diagnosis is now legitimate.¹⁸

14. Recognition of the limitations of history and physical findings in the triage of patients presenting with chest pain: The beliefs that response to nitroglycerin, antacids, or history of burning or sharp pain are of significant use in ruling in or out cardiac chest pain have been disregarded.^{19,20}



15. The use of “Do not resuscitate” orders to help decide on the extent of care offered to critically ill patients: We have at last faced the difficult (although still controversial) truth that cardiopulmonary resuscitation is frequently futile, cruel, and without dignity for patients at the end of their lives. Being in an ED no longer means that a dying patient has to undergo the full spectrum of emergency measures.²¹

16. ER: The popular television series has brought the concept of the ED into the sitting rooms of North America. Emergency physicians rarely get asked what they actually do anymore! 

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