

Pain – the fifth vital sign

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Why do some medical innovations spread slowly? Please let me remind you of the first public demonstration of anaesthesia in Boston using “Letheon”. The discovery of an “insensibility produced by inhalation” was published in the *Boston Medical and Surgical Journal* in 1846 [1]. Ether was identified as the main ingredient of this miraculous gas mediating anaesthetic effects. Even without e-mail, social media or other modern communication methods, this innovative observation rapidly spread throughout the world and was used by surgeons worldwide only few weeks later.

Infection was another great threat of surgery at that time. In 1867, Joseph Lister published in the *British Medical Journal* that the use of carbolic acid for cleansing of the hands and surgical field strikingly lowered rates of infection and infection-related death after surgery [2, 3]. However, the theory of germ-related infections after surgery appeared illogical and, to be honest, we have to struggle with infection-related complications even today. What are the differences? Anaesthesia using ether fought against one visible challenge (immediate pain after surgical intervention), whereas carbolic acid combated an invisible, more complex problem. In addition, both innovations improved safety and comfort for patients, whereas only one improved the working environment for doctors: anaesthesia transformed the operating theatre into a quiet concentrated working space. In the old days they made screaming patients chew on a towel [4].

“Acute pain” is present not only in the operating room, but is also one of the most common major complaints of patients presenting to the emergency department (ED), affecting up to 70% of patients [5]. Although prompt and effective pain management for affected patients appears self-evident, multiple scientific publications have reported insufficient pain control in the ED in general [5, 6]. Pain is considered so important that it has been called “the fifth vital sign” [7] and management of acute pain is pain-syndrome targeted and patient specific, using – when feasible – a multimodal approach that includes nonpharmacological and pharmacological interventions [8].

Comparable to the reported situation in infection prevention during surgery during the old days, pain of presenting care seekers is not visible to the healthcare professionals. Moreover, pain management in the ED is complex and is affected by cultural and individual beliefs of care givers and affected patients (table 1). Owing to the complexity of pain management in the busy environment of an ED, a sys-

tematic, standardised approach within the organisation appears promising [8]. Several decades ago, Swiss investigators published disappointing findings of a national survey showing that only about the half of ED care providers received formal training in pain management, only 14% of EDs used a validated pain assessment tool and <5% of institutions had a protocol on pain management [10].

Bourgeois et al. now present their delightful follow-up findings on the structure and organisation of acute pain management in Swiss EDs [11]. The authors of this important paper have to be congratulated on their impressive work. Bourgeois et al. show in their representative national survey (response rate of 84%) that the fundamental basis of adequate pain management is available in almost all Swiss EDs [11]: pain intensity can be assessed in all patients presenting to Swiss EDs, and a nurse-initiated pain protocol is implemented in more than two thirds of ED institutions. Pain protocols for physicians are available in more than 75% of institutions, and an analgesia-sedation protocol in more than the half of institutions. The rate of implementation is higher in university hospitals and larger community hospitals [11].

In summary, a substantial improvement in the institutional basis of pain management has been implemented in most Swiss EDs during recent years. There are several reasons for these improvements, such as greater awareness of pain control, quality improvement programmes, changed patient expectations and multiple other factors, which were thoroughly discussed in the manuscript by the authors. In addition, I strongly believe that the structural and organisational changes in emergency care in Swiss hospitals during recent years have strongly contributed to more professional and standardised approaches to acute care, including acute pain management. Moreover, professional education for emergency nurses and subspecialisation of emergency physicians may reflect the overall improvement of emergency care in Switzerland [12, 13]. Nevertheless, presentation of a nationwide formal basis for better pain management reflects only one side of patient centred pain management. Therefore, it would be of great interest to learn whether pain management has really improved bedside care in daily clinical practice. This limitation has already been thoroughly discussed in the manuscript [11].

What could be valuable next steps for excellent pain management within EDs? The push to evaluate and assess pain in patients – as exemplified by the marketing term “pain as the fifth vital sign” – has exposed serious deficits in

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Table 1: Enablers and barriers for best practice of pain management in the emergency department.

Level of health care system	Enablers	Barriers
Healthcare system	Structured educational programmes on management of acute pain	System-wide lack of resources Politically driven change resulting in competing priorities Legislative requirements for clinical practice in the ED
Hospital (organisation)	Provision of a strong evidence base for change Facilitation of 'buy-in' across all staff levels by the organisation	Hospital-wide lack of resources Directives given to ED in response to politically driven change or adverse incidents Processes and legislative requirements related to provision of analgesia Organisational culture resistant to change
ED team	Targeting senior staff to be leaders of change Provision of a strong evidence base for change Presence of a dedicated pain management clinician Comprehensive education package delivered to entire team	Lack of resources and time to manage change effectively Busy environment of the ED Self-regulating practices of individual clinicians Patient expectations of care
Individual emergency healthcare professional	Engagement of individual senior clinicians for change Strong evidence base Positive outcome for the patient Presence of champion for change Comprehensive education package targeting all individual clinicians	Limited education in assessing and treating acute pain Insufficient time to review guidelines and consistently apply best practice Busy, stressful environment of the ED Resistance to change due to high level of clinician confidence in existing practice Patient expectations of care
Patient	Structured enlightenment campaigns	Patients' expectations and health Beliefs Anxiety about interventions and treatment

ED = emergency department Table modified and extended from [9].

provider education and training in pain assessment and management, which have never been intended [7]. Currently, patients and clinicians view pain solely as a “sensory experience”. Therefore, a widely accepted belief is that the prescription of pain drugs is able to manage this unwanted unpleasant sensation. This view is reflected by the rapid rise in prescription of opioid medications in the ED and by other acute healthcare providers in previous decades [14, 15]. But the rise in prescribing opioids has also been associated with a rise in unintended deaths associated with prescription opioids [16]. Of note, opioid prescription has been reduced in EDs during recent years in the US [17] and there are novel programmes to avoid opioid medication in acute settings, such as the ALTO programme of a Californian community hospital [18]. In addition, before prescribing opioids, risks of harm and counselling patients about serious adverse effects, such as sedation, respiratory depression, risk of tolerance and hyperalgesia, and the potential risk of opioid use disorder have to be addressed.

It is tempting to postulate that we should accept that pain is not solely a sensory experience, but is more complex to assess, evaluate and manage than originally anticipated [7]. In addition, current knowledge and skills in adequate pain management should be further improved [19]. Therefore, I strongly encourage paying more attention to pain education and training for all professional groups of healthcare providers. Additionally, enlightenment campaigns for patients and their relatives would greatly help to improve knowledge and modify expectations, in order to adequately address patient needs (table 1). A cultural transformation in the way clinicians and the public view pain and its management is required to improve efforts to “prevent, assess, treat, and better understand pain of all types” [7]. The work of Bourgeois et al. has not only evaluated and reported the institutional, formal basis for adequate pain management in Switzerland [11], but also encourages all emergency care providers to further improve management of acute pain at the bedside.

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