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Patient-controlled analgesia in burn care in the Czech Republic and Slovakia

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Managing pain effectively following a burn injury can be quite difficult. Patient-controlled analgesia (PCA) is a method of pain management that allows patients to self-administer predetermined doses of analgesic medication, most commonly intravenous opioids, on demand through a programmable pump within predefined safety limits [1]. While PCA has proven beneficial in many hospitals worldwide, its implementation in our region remains limited. In the Czech Republic, PCA is currently used only in Prague; Brno and Ostrava do not offer PCA for burn patients. In Slovakia, PCA is not used in burn centers (Bratislava and Čadca). This letter summarizes the evidence supporting PCA in burn care and argues for its considered introduction into Czech and Slovak burn services.

To put this gap into perspective, recent international studies highlight the clinical significance and benefits of PCA in managing pain for burn and surgical patients. PCA has already established itself as a crucial part of acute burn pain management in other nations, despite not being a standard practice in burn centers in Slovakia and the Czech Republic. A Taiwanese retrospective study on major burn patients receiving IV-PCA, for example, showed that the opioid requirements matched both the burn severity and the individual's pain needs, demonstrating the adaptability of PCA in handling complex pain situations [2].

Furthermore, PCA has consistently demonstrated advantages beyond burn care in several specialties, including major abdominal surgery, orthopedics, and plastic surgery. Compared with patients receiving standard nurse-administered pain relief, patients using PCA experienced higher satisfaction and required fewer rescue analgesia interventions, according to a multicenter study [3]. Increased patient autonomy, rapid titration, and consistent pain management across various surgical specialties, particularly in reconstructive and plastic surgery, are the primary benefits of IV-PCA, according to a more comprehensive analysis [4].

Recent research has expanded the understanding of the benefits of PCA across different medical specialties. A systematic review published in 2025 indicated that PCA was associated with lowered opioid intake and shorter hospital stays when compared to conventional treatment [5]. These findings imply that PCA not only improves pain management but also enhances resource efficiency, supporting its broader applicability to acute pain conditions and reinforcing its potential value in burn centers.

PCA is also effectively employed in plastic and reconstructive surgery, where procedures such as skin grafting, flap surgeries, and extensive soft-tissue reconstructions often require stable analgesia to facilitate early patient mobilization and recovery. Such an interdisciplinary experience strengthens the argument for the use of PCA in the burn unit, particularly when staged operations and dressing changes would also benefit from predictable, patient-responsive analgesia.

Moreover, the implementation of PCA is also supported by economic and organizational considerations. Although the initial costs (primarily for pumps, consumables, and staff training) may appear significant, these expenses are often offset by reduced nursing workload, fewer unexpected analgesic requirements, and more regular opioid administration. Some studies even suggest that PCA use is associated with a reduction in hospital length of stay of approximately 1–2 days compared with standard analgesic regimens, thereby improving cost-effectiveness [6]. In addition, PCA reduces the need for repeated nurse-administered bolus dosing, which has been associated with lower nursing time per patient and improved workflow efficiency. While burn-specific economic analyses remain limited, evidence from other surgical fields suggests that PCA may be cost-neutral or even cost-saving in high-burden pain settings,

where better pain relief enables rehabilitation and reduces resource use.

In conclusion, PCA is widely embraced internationally in burn and surgical care, supported by evidence showing improved analgesia, higher patient satisfaction, and potential cost savings. Given its absence in most burn centers in the Czech Republic and Slovakia, introducing PCA presents a timely opportunity to align local practices with international standards and improve patient-centered pain management.

Roles of the authors
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