

American surgery patients—more pain medication, yet more pain

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New research presented at this year's Euroanaesthesia conference in Berlin shows that American patients undergoing orthopaedic surgery receive more treatments for pain and that their experience of pain differs in some aspects to orthopaedic patients internationally. The study is by Drs Winfried Meissner and Ruth Zaslansky, University Hospital Jena, Germany, and Dr C. Richard Chapman Utah, Pain Research Center, Salt Lake City, USA. All researchers are part of the international PAIN OUT research group.

Poorly controlled [pain](#) after surgery is a major problem internationally despite efforts to improve it. American hospitals regularly assess pain because it is a requirement for accreditation. Regular pain assessment is regarded as a cornerstone for good [pain management](#) as it allows gauging of a patient's needs for treatment. Prior to this study, the research team believed that because [pain assessment](#) is an accreditation requirement in the USA, there would be meaningfully lower pain reports on the first day after surgery in USA [patients](#) compared with other countries, where pain measurement is not uniformly an accreditation requirement.

Using the PAIN-OUT international [acute pain registry](#) to examine perioperative pain control in a large group of patients undergoing different orthopaedic surgical procedures, the authors compared patient reported outcomes in a pooled patient sample from four American (n= 1011) (different regions of the US) versus 45 International hospitals (INT) hospitals (n = 28,510). The international hospitals involved in the study were based in Belgium, France, Germany, Italy, Spain, Sweden,

Switzerland, Moldova, Romania, Malaysia, Ukraine, Serbia, Israel and the UK.

The study found that American patients, contrary to prediction, had higher mean worst pain scores than INT patients (7.5 on a standard 11 point pain measurement scale versus 5.2). American patients also reported that they felt 'greater participation in decisions about pain treatment' and that the pain had a more severe effect on their level of anxiety and helplessness. Yet, there were no differences in other outcomes, such as the time patients reported spending in severe pain on the first day after surgery or in the extent of relief provided by pain treatments. Outcomes were measured using standard rating scales employed in clinical pain studies.

These findings were surprising and so the authors did further analyses to check pain management practices provided to American patients as compared with INT patients. They found that American patients were actually receiving more opioid medication in the different phases of surgery - before hospitalisation, just before surgery and during the first day after surgery. They also received more regional analgesia after surgery. INT patients received more non-opioid medications in some phases of treatment.

Since high amounts of opioids can sensitise patients to nociception (meaning they experience worse pain), the authors then checked to see if American patients receiving the lowest opioid doses also experienced more pain. They found that the 25% of USA patients receiving the lowest doses of opioids had a higher worse pain score (6.62) than the 25% of INT patients receiving the lowest doses of opioids (4.93). This indicates that sensitisation by opioids is not necessarily the reason for the observed differences.

The authors say: "The higher mean worst pain score in USA patients on

the first day after [orthopaedic surgery](#) does not have a simple explanation. USA patients receive more pain medication than international patients and yet report worse pain. This merits further investigation."

The authors say that, although the hospitals were not selected by strict random sampling, they are reasonably representative of practices in the countries they represent. Another limitation they highlight is that pain was assessed once on the first post-operative day and so it was not possible know how the pattern of pain responses on subsequent days after surgery emerged.

The authors conclude: "The findings of this study are puzzling as American patients were treated according to current clinical practice guidelines to a greater extent compared to INT patients. Their pain is regularly assessed; they received more opioids and regional analgesia. Are the differences cultural? Perhaps pain is measured mechanistically and this in itself is insufficient in procuring good management of pain? Could frequent pain measurement draw patient's attention to the pain and intensify the experience? Maybe opioids sensitise some aspects of the post-surgical experience of pain? Further research is needed to understand the findings."

They add: "Registries such as PAIN OUT allow healthcare providers to assess the effect of care in the clinical routine on outcomes and to find out how their patients' outcomes compare to national and international benchmarks. Participation in PAIN OUT is open to healthcare providers, worldwide."

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