Introduction
Acute post-surgical pain causes significant morbidity and can be challenging to manage in the pediatric population. Barriers may be due to difficulties in pain assessment, variabilities in treatment and dosing and inadequate knowledge on the part of the caregivers.

Adequate control of acute pain, especially in the setting of trauma, will enable stabilization of injury, faster recovery, shorter hospitalization and chronic pain prevention after orthopaedic surgery.

Our aim is to assess the adequacy of post-operative pain control, identify problems and optimize pain management for our pediatric patients.

Methods
Demographic data, surgical details, peri-operative anesthetic/analgesic treatment, post-operative pain scores and analgesia prescribed/served were collected on a prospectively-designed data form. Intra-operative data were filled by the anesthesiologist and post-operative data by the pain nurse or anesthetist-on-call. A total of 94 forms were collected.

Results
Mean age was 10.07 yrs (SD 4.5). Mean weight was 41.1 kg (SD 22.5). Mean duration of surgery was 72.7 min (SD 47.9). 14.9% were day-surgical, 31.9% inpatient, 53.2% emergency cases. 84% of patients received GA only. 16% received GA combined with RA.

Intra-operatively, 86.2% of children received IV fentanyl, mean dose 1.33 mcg/kg (SD 0.65). 88.3% received IV morphine, mean dose 0.087 mg/kg (SD 0.19).

The morphine dose was reduced when RA technique was employed, mean dose 0.051 mg/kg (SD 0.057).

In the recovery, salvage IV opioid was required in 14.9% of patients.

The post-operative analgesic regimen prescribed and served w.r.t. type of surgery, are shown on Figures 1 and 2 respectively.

Discussion
Thus, post-operative pain control was sub-optimal in these patients undergoing painful surgeries for traumatic fractures. Also, we noted post-operative pain score to be high, even in patients who had regional blocks performed. This is likely due to breakthrough pain from single-shot block resolution, without adequate background analgesia. The pain from a previously numb limb is often viewed as relatively much more severe than if it had been felt immediately post-operatively. There is a need for more frequent objective pain assessment, prophylactic prescription coupled with regular administration of potent opioid, in addition to paracetamol and NSAID, by ward nurses. The change in prescribing practice from paper to electronic format may have contributed to the inconsistency in treatment. Continuous peripheral nerve block may be considered to provide prolonged analgesia for painful procedures eg. knee surgeries. Otherwise, regular by-the-clock dosing of potent oral opioids or patient-controlled morphine infusion, may be employed to anticipate and smoothen break-through pain, when the block wears off. Patients unsuitable for discharge due to persistent high post-opt pain scores, should be communicated to the orthopedic surgeon, to avoid premature discharge. The institution of and adherence to educational requirements and quality improvement guidelines is recommended.

References