HMC EM EVIDENCE-BASED CLINICAL ALGORITHM:
ANALGESIA IN UNDIFFERENTIATED ABDOMINAL PAIN

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Evidence basis:
- Thomas SH. *Emergency Department Analgesia: An evidence-based guide.* Cambridge University Press, 2008.
- Manterola C. The use of analgesia for acute abdominal pain does not mask clinical findings, nor does it delay diagnosis. *Cochrane Library* database of systemic reviews; published online 19 Jan 2011; accessed 13 Sept 2015.

This EBCA:
- has been endorsed by HMC EM and other consultants for education and assistance with clinical practice in HMC's EDs.
- is intended to complement any related multispecialty Clinical Practice Guideline prepared as per HMC policy.
- is not presented as the binding "standard of care" but is rather a reference tool to inform clinical judgment.

Algorithm aim & applicability:
This algorithm applies to patients in whom, after a brief initial evaluation, there is no clear explanation for abdominal pain (*i.e.* there is "undifferentiated abdominal pain") and in whom pain severity is judged sufficient to warrant analgesia. The EBCA is *not* aimed at cases where there is a very likely working diagnosis that dictates pain medication should be either aggressive (*e.g.* renal colic) or cautious (*e.g.* abdominal aortic aneurysm). The EBCA aims to guide analgesia provision in an effective yet judicious manner.

If appropriate (*e.g.* not already tried at home, no severe hepatic disease): paracetamol 1 g IV (may be repeated in 6-8 h)

Is the pain severity* high enough to warrant (more) analgesia?

No → Continue to monitor and give analgesia *prn*

Yes → Is there concern for hypotension?

No → morphine 0.05-0.1 mg/kg (repeated q30' to max 0.2 mg/kg)**
- in truly undifferentiated pain: lower dosing preferred
- if develop strong suspicion of renal colic:
  - start with 0.1 mg/kg and give 0.05 mg/kg in 10'
  - co-administer injectable NSAID

Yes → fentanyl 0.5-1.0 mcg/kg (repeated q15-20' to max 3 mcg/kg)**
- lower doses are inherently safer & less controversial
- avoid therapies that compound risk (*e.g.* midazolam)
- clinically effective half-life about 20 minutes/dose:
  - re-dose earlier rather than later (minimizes dosage)
  - transition to longer-acting agents when safe

***Adjudicating pain severity**

- Assessment of pain severity should rely heavily on patient-expressed (not clinician-assigned) judgment.
- If patients want something stronger than paracetamol, they should nearly always receive it.
- Judgments on pain severity should be informed by patient age, gender, or origin *only* with the aim of assuring that we don't undertreat. Using any patient characteristics to discount patient-expressed pain severity is both biased and clinically wrong.

****Notes on analgesia approach in undifferentiated abdominal pain**

- This EBCA is for undifferentiated abdominal pain. When certain diagnoses are clinically very high-likelihood, therapy may be different (*e.g.* high-dose morphine plus NSAID for ovarian cyst pain).
- All medications should always be given intravenously. There is little or no role for IM or SQ analgesia in patients with significant degrees of pain in the ED.
- This EBCA does not aim to reproduce all contraindications and risk profiles of the medications involved. Clinicians should use judgment when selecting and dosing pain medications.
- In patients who may need general surgery operative intervention, NSAIDs should be avoided.