



# Ask an Informationist

Engaging with the evidence

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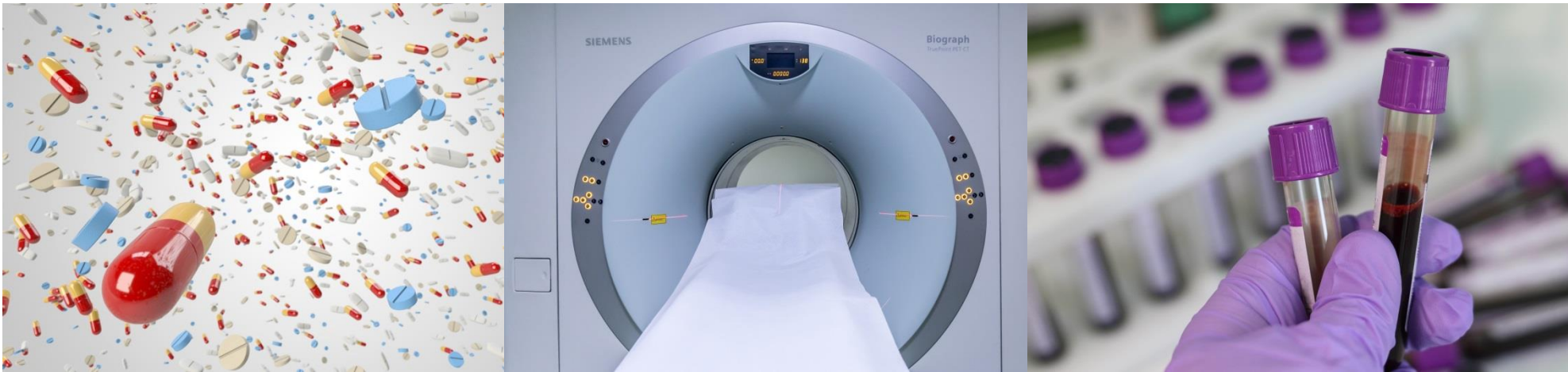
**Austin**  
HEALTH

# Issue

For clinicians today, the amount of information available can be overwhelming.

Does emerging evidence question existing practices; or has a previous finding been overturned through new research?

These key questions inform evidence-based practice decisions, enabling delivery of the most appropriate level of care.



# Objective

**Ask an Informationist** is an initiative that translates clinical questions into practice.

A clinical question is submitted to the Austin Health Choosing Wisely Steering Committee.

The Austin Health Sciences Library team create an infographic as a visual summary of the available evidence, supported by a written report.

The image displays a row of 10 infographics from the 'Ask an Informationist' series. The first nine are clinical evidence summaries on various topics, and the tenth is a central graphic with question marks and the text 'Your question could be next'.

- Infographic 1: IS THERE EVIDENCE TO SUPPORT THE USE OF IV MAGNESIUM IN ATRIAL FIBRILLATION?**
  - Fact or Fiction?** At present, the available data would suggest that magnesium, as an adjunct to electric cardioversion or for prevention, is more myth than a practical, easy to implement solution to the growing problem of AF.
  - 2017 Systematic Review Evidence:** Magnesium administration post-cardiovascular surgery appears to reduce AF without significant adverse events.
  - 2016 Canadian Cardiovascular Society Guideline:** We suggest that patients who have a contraindication to  $\beta$ -blocker therapy and atrial fibrillation before or after cardiac surgery be considered for prophylactic therapy by intravenous PIV with intravenous magnesium.
  - 2014 NICE Clinical Guideline:** Do not offer magnesium or a calcium channel blocker for pharmacological cardioversion.
  - 2013 Cochrane systematic review:** The ability of magnesium to prevent atrial fibrillation may be slightly less than that of the other pharmacological agents.
- Infographic 2: SHOULD IV PPIs BE GIVEN TWICE DAILY OR CONTINUOUSLY?**
  - Current:** Globally, guidelines recommend in high risk patients, with acute non-variceal UGIB, post endoscopic haemostasis, administer PPI as IV bolus (80mg) followed by continuous infusion (8mg/hr) for 72 hours.
  - 2017:** UTD recommends administering IV PPI at a dose of 40mg twice daily rather than a high-dose continuous infusion.
  - 2017:** Intermittent PPI therapy has been found to be safe and effective while significantly reducing cost, even in patients with high-risk stigmata after endoscopy.
  - 2016:** Low dose IV PPI achieved the same efficacy as high dose PPI post endoscopic haemostasis.
  - 2015:** High dose PPI show little or no difference in the risk of rebleeding and mortality.
  - 2014:** The risk/benefit and cost/benefit balance are probably unfavorable to the use of high-doses.
- Infographic 3: WHAT IS THE EVIDENCE FOR MINIMUM RETESTING INTERVALS IN MICROBIOLOGY TESTS?**
  - THE ISSUE:** Laboratory test over-use is a known contributor to unnecessary interventions & patient harm.
  - MINIMUM RETESTING INTERVALS:** The minimum time before a test should be repeated, based on test properties and clinical situation.
  - BEST EVIDENCE FOR MICROBIOLOGY:** If no evidence-based guidance existed... recommendations were based on consensus.
  - THE WAY FORWARD:** Studies indicate implementing computerised alert systems based on retesting intervals can save ~12.8% test cost.
  - EXPERT OPINION:** We need a stronger evidence base!
- Infographic 4: Are opioids necessary FOR THE MANAGEMENT OF PAIN FOLLOWING LIMB FRACTURE SURGERY OR EXTREMITY TRAUMA?**
  - The issue...** The 'opioid crisis' has recently been rebranded as a 'public health emergency'.
  - plus ...** Postoperative prescription opioids are often unused, unlocked & undisposed.
  - Recent evidence ...** Non-opioid analgesia is as effective as opioid analgesia for acute extremity pain.
  - The balancing act...** Optimal pain management vs Responsible prescribing.
- Infographic 5: MANAGEMENT of RENAL COLIC**
  - DO IV FLUIDS MAKE A DIFFERENCE?** No reliable evidence to support the use of diuretics and high volume fluid therapy to treat renal colic.
  - IS TAMSOLOSIN MORE EFFECTIVE THAN PRAZOSIN?** Tamsulosin is widely used as the most effective drug for medical expulSION. Evidence indicates a lack of need to treat renal & other alpha blockers with renal colic.
  - INDOCID: RECTAL or ORAL?** No evidence in past decade directly addressing benefit of PR vs oral use and risk. Insufficient data to determine efficacy of PR route for any NSAID suppositories used in renal colic.
  - BOTTOM LINE?** NSAIDs for fast pain relief.
- Infographic 6: EVIDENCE OF AN ISSUE? PREGABALIN IN ACUTE NEUROPATHIC PAIN?**
  - EVIDENCE FOR USE IN SHINGLES?** Acute herpetic neuralgia - pain during first 30 days after onset of herpes zoster.
  - EVIDENCE FOR USE IN SCIATICA?** Pregabalin did not significantly reduce intensity of leg pain nor improve other outcomes.
  - RISKS & CONCERNS?** Clinicians should be cautious about prescribing pregabalin... consider whether its benefits outweigh potential harms.
- Central Graphic:** Your question could be next. austin.org.au/cw-ask



# IS THERE EVIDENCE TO SUPPORT THE USE OF IV MAGNESIUM IN ATRIAL FIBRILLATION?



**Fact or Fiction?**

"... at present, the available data would suggest that magnesium, as an adjunct to electric cardioversion or for prevention, **is more myth** than a practical, easy (or magical) solution to the growing problem of AF."

**2017**  
Systematic Review Evidence

**"Magnesium administration post-cardiothoracic surgery appears to reduce AF without significant adverse events."**

- ✓ Optimal timing = postoperative with duration >24h, doses up to 60mmol, administered as boluses
- ✗ Insufficient evidence supporting magnesium therapy for treatment or prophylaxis of other arrhythmias
- ✗ \*Magnesium **was inferior** to β-blockers and amiodarone in preventing postoperative atrial fibrillation/flutter (POAF), which is consistent with the findings in cardiac surgery\*

**2016**

**Canadian Cardiovascular Society Guideline**

- ✓ *"We suggest that patients who have a contraindication to β-blocker therapy and amiodarone before or after cardiac surgery be considered for prophylactic therapy to prevent POAF with intravenous magnesium"*

**(Conditional Recommendation, Low-Quality Evidence)**

**2014**

**NICE Clinical Guideline**

- ✗ "Do not offer magnesium or a calcium-channel blocker for pharmacological cardioversion"

*Why not?*

The Guideline Development Group (GDG) determined that Magnesium was more clinically effective than calcium channel blockers but **less effective than placebo**. Therefore, the GDG considered these drugs showed harm and should not be used for cardioversion."

**2013**

**Cochrane systematic review:** "The ability of magnesium to prevent atrial fibrillation may be slightly less than that of the other pharmacological agents."

# Impact

When coupled with audit data or local policies and procedures, this provides an evidence-rich foundation for clinicians to initiate change and "Choose Wisely" in their delivery of patient care.

Through this collaboration we are:

- engaging with the evidence
- encouraging critical thinking
- shaping the future of our patient care



FOR ACUTE NON-VARICEAL UPPER GI BLEED...  
**SHOULD IV PPIs  
BE GIVEN TWICE DAILY OR  
CONTINUOUSLY?**

**Current**

2016 Globally, guidelines recommend:  
in high risk patients, with acute non-variceal  
UGIB, post endoscopic haemostasis,  
**administer PPI as IV bolus (80mg) followed  
by continuous infusion (8mg/hr) for 72  
hours**

BSGE 2002; ACG 2012; ESGE 2015; NICE2016; Nanchang 2016; JGES 2016

**but wait...**

2017 UTD recommends administering IV PPI "at  
a dose of **40mg twice daily** rather than a  
high-dose continuous infusion"

"Our approach differs from 2010 and 2012 guidelines...Meta-analyses of  
randomised trials have **failed to show superior outcomes with high-dose  
continuous IV PPI administration compared with intermittent dosing**"

Overview of the treatment of bleeding peptic ulcers, UpToDate 2017

**and...**

"**intermittent PPI therapy has been found to be  
safe and effective** while significantly reducing  
cost, even in patients with high-risk stigmata after  
endoscopy"

Evidence summary - American Journal of Health-System Pharmacy, Feb 2017

**plus...**

- Low dose IV PPI achieved the **same efficacy** as high dose PPI post endoscopic haemostasis
- "High dose PPI show little or **no difference** in the risk of rebleeding and mortality"
- "The risk/benefit and cost/benefit balance are probably unfavorable to the use of high doses"

Evidence summaries 2010 & 2016

# Outcome

To date, six infographics and reports have been produced and have been made publicly available.

The initiative has:

- driven change in emergency department practice for intravenous magnesium use;
- led to delivery of clinical education around PPIs through workshops and media activities;
- been a catalyst for broader discussion around opioid use throughout the hospital.



[www.austin.org.au/cw-ask/](http://www.austin.org.au/cw-ask/)