Aug 2020

Antimicrobial Stewardship in Surgical Patients

VCH Antimicrobial Stewardship Team (ASPIRES) is working with VCH-PHC Regional P&T to **phase out clindamycin from surgical prophylaxis regimens** where appropriate, in consultation with surgeon leads. Cerner PowerPlans, paper-based pre-printed orders and VCH-PHC Surgical Prophylaxis Guidelines are in the process of being updated.

- Cefazolin can be safely administered to patients with penicillin anaphylaxis
- Clindamycin carries significant risk for *C. difficile* infection (OR 20.43) J Antimicrob Chemother. 2013;68(9):1951-1961.
- Increase in resistance of *Staph* and *Strep* to clindamycin (~30%) resulting in more clinical failure
- Alternatives available for surgical prophylaxis purpose:
  - *Staph* and *Strep* → cefazolin IV (preferred) or vancomycin IV (if cefazolin contraindicated)
  - Anaerobes → metronidazole IV

Comparison of Antibacterial Spectrum		Cefazolin	Vancomycin	Metronidazole	Clindamycin
Gram Pos	Group A,B,C,G *Strep*	✓	✓		✓ (increasing resistance)
	Viridans Grp *Strep*	✓	✓		✓(increasing resistance)
	MSSA	✓	✓		✓(increasing resistance)
	MRSA		✓		✓(increasing resistance)
Anaerobes	*Peptostreptococcus*	✓	✓	✓(variable)	✓ (increasing resistance)
	Bacteroides sp			✓	✓ (increasing resistance)

Question? Call 604-417-8921

https://my.vch.ca/dept-project/Antimicrobial-Stewardship-Programme-ASPIRES

Antimicrobial Stewardship Programme:
Innovation, Research, Education, and Safety
Quality and Patient Safety, Vancouver Coastal Health

ASPIRES smart prescribing

Vancouver CoastalHealth
Promoting wellness. Ensuring care.

Surgical Prophylaxis – "Stop prophylaxis immediately post-op"

A recent systematic review and meta-analysis found **no benefit when antibiotic prophylaxis is continued post-op** (vs. discontinuation post-procedure) for reducing surgical site infections when best practice standards are followed. Lancet Infect Dis. 2020 May 26;S1473-3099(20)30084-0. doi: 10.1016/S1473-3099(20)30084-0. Online ahead of print.

- Jan 1990 to July 2018, 52 RCTs, 19,273 participants
- RR of surgical site infection with best practice 1.04 [0.85-1.27] (non-significant)
- Limitations: only 46% of RCTs followed best practice standards, variable definition of surgical site infection.

Intraadominal Infection Treatment – "Stop therapy after 4 days"

The STOP-IT trial published in 2015 found **similar clinical outcomes** in patients with **complicated intra-abdominal infections (IAI)** with **adequate surgical source control** when treated **for 4 days** vs. resolution in physiological abnormalities related to SIRS (~8 days). NEJM 2015;372:1996-2005.

- Open-label, randomized, multi-centre (USA, Canada), n=518
- Primary endpoint: surgical site infection, recurrent IAI, or death at 30 days
- Definition of physiological abnormalities resolution: Temp <38°C for 1 day, WBC <11, able to consume 50% of regular diet
- Organ of origin: colon/rectum (34%), appendix (14%), small bowel (14%)
- Source control procedure: percutaneous drainage (33%), resection and anastomosis or closure (26%), surgical drainage only (21%)
- Note: low number of immunocompromised patients. Excluded: perforated gastric ulcer or duodenal ulcer treated within 24hours of the onset of symptoms, non-perforated/non-gangrenous appendicitis or cholecystitis, gangrenous appendicitis or peritonitis without confirmatory cultures or with cultures without bacterial or fungal growth, IAI associated with active necrotizing pancreatitis

Cerner Update: Antimicrobial Automatic Hard Stop – "Exceptions"

Exceptions to the hard stop have been updated to reflect current practices for commonly prescribed durations and prophylaxis use.

General rule:
7 day automatic hard stop for antimicrobial orders

Current exceptions:

Oseltamivir	5 day hard stop
Antiretrovirals (ARV)	No stop date
Tuberculosis meds	No stop date

New exceptions (going live Aug 13, 2020):

Nitrofurantoin treatment	5 day hard stop
Rifaximin	10 day hard stop
Vancomycin (PO, PR, NG)	10 day hard stop
Dapsone	No stop date
Ganciclovir	No stop date
Valganciclovir	No stop date
Acyclovir 400 mg PO BID	No stop date
Valacyclovir 500 mg po qdaily	No stop date
Nitrofurantoin QHS (prophylaxis)	No stop date

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