



Clinical Pharmacology & Toxicology Pearl of the Week

~ Pharmacogenomics: Resources and Guidelines ~

- ✓ Pharmacogenomics is a rapidly evolving field.
- ✓ Multiple national and international groups have developed actionable guidelines for drug prescribing based on pharmacogenomic results.
- ✓ As additional drug-gene pairs are identified, guidelines will need to be written and validated.

Where can I find more information on pharmacogenomics, and what to do with the results?

- ✓ Clinical Pharmacogenetics Implementation Consortium (CPIC®) is an international group whose goal is help translate pharmacogenomic testing into actionable guidelines based on drug-gene pairs.
 - Gene-Drug pairings can be found here: <https://cpicpgx.org/genes-drugs/>
 - Guidelines can be found here: <https://cpicpgx.org/guidelines/>
- ✓ Canadian Pharmacogenomics Network for Drug Safety (CPNDS) is a Canadian group located in Vancouver, BC who investigate adverse drug reactions and the role that pharmacogenomics in their incidence and severity.
 - Patients who experience adverse drug reactions within Canada can be referred to the CPNDS. Currently, Foothills Hospital, Alberta Children's Hospital, and the Stollery Children's Hospital are part of their surveillance sites.
 - More information can be found here: <http://cpnds.ubc.ca/>
- ✓ PharmGKB is a National Institute of Health (NIH) funded website that provides readily searchable pharmacogenomic information on drugs and genes, with information on how your prescribing could be influenced.
 - PharmGKB will provide readily referenced guidelines and literature, often looking at all pharmacogenomic working groups around the world.
 - More information and searching can be found here: <https://www.pharmgkb.org/>
 - Ever wonder how a drug works or is metabolized? PharmGKB also provides curated metabolic and pharmacodynamic pathways in easy-to-understand diagrams. Ex: ACE-I: <https://www.pharmgkb.org/pathway/PA2023>

References:

1. Brunton L, Hilal-Dandan R, Knollmann B, editors. Goodman & Gilman's The Pharmacological Basis of Therapeutics. 13th ed. New York: McGraw Hill Medical; c2018
2. <https://cpicpgx.org/guidelines/>
3. <https://cpicpgx.org/genes-drugs/>
4. <http://cpnds.ubc.ca/>
5. <https://www.pharmgkb.org/>

The Clinical Pharmacology (CP) physician consultation service is available Mon-Fri, 8am-5pm. The on-call physician is listed in ROCA on the AHS Insite page. CP consultations are also available through Netcare e-referral and Specialist Link. You can also find us in the [Alberta Referral Directory](#) (ARD) by searching "Pharmacology" from the ARD home page. Click [HERE](#) for more details about the service.

The Poison and Drug Information Service (PADIS) is available 24/7 for questions related to poisonings. Please call 1-800-332-1414 (AB and NWT) or 1-866-454-1212 (SK). Information about our outpatient Medical Toxicology Clinic can be found in [Alberta Referral Directory](#) (ARD) by searching "Toxicology" from the ARD home page.

More CPT Pearls of the Week can be found [HERE](#).

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