CYP2D6 Pharmacogenetics Consultation
UF Health Personalized Medicine Program

HPI:

Patient full name (MRN 00000), is currently enrolled in the research study, Implementing Genomics in Practice (IGNITE): CYP2D6 Genotype-Guided Pain Management in Patients Undergoing Arthroplasty Surgery (IRB 201800445). This patient provided written consent on --/--/---- and was randomized to the genotype-guided group.

Drug allergies:
Add

CYP2D6 interacting drugs (as of --/--/----):
Add

Pharmacogenetic test results (--/--/----):
CYP2D6 Genotype: */*
CYP2D6 Phenotype: **Intermediate Metabolizer (IM)**; decreased CYP2D6 enzyme activity

Interpretation:

Tramadol, codeine, and to a lesser extent hydrocodone and oxycodone are converted to more potent metabolites by the CYP2D6 enzyme. This patient's CYP2D6 metabolizer status is associated with decreased production of more potent forms of these drugs. Therefore, this patient may get little to no pain relief from tramadol, codeine, hydrocodone, and oxycodone.

Recommendations:

Tramadol, codeine, hydrocodone, and oxycodone are **NOT RECOMMENDED** because this patient is predicted to be an **INTERMEDIATE METABOLIZER** of these drugs. **Consider an alternative opioid** such as morphine or hydromorphone that is not affected by CYP2D6 metabolism status **or a non-opioid** analgesic.

For questions regarding this recommendation, please contact the UF Health Personalized Medicine Program:
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References:

1. Crews, K.R., et al. CPIC guidelines for *CYP2D6* genotype and codeine therapy: 2014 update. Clin Pharmacol Ther. 2014;95:376-82.
2. Stamer, U.M., et al. Impact of *CYP2D6* genotype on postoperative tramadol analgesia. Pain 2003;105:231-8.