



ENABLING ESSENTIAL ELEMENTS OF CANCER CARE [50 Genes]

PGxOnco™ is a pharmacogenomics test that can help predict how a patient will respond to drug therapy based on individual genetic makeup, providing key patient management solutions.

- Genetic variants affect drug absorption, metabolism and activity. Results allow for supportive care to start at diagnosis.
- Provides recommendations that will lead to efficiencies and cost savings.
- Delivers medically actionable results in an easy to interpret report with rapid implementation in mind.
- Allows for faster results in managing toxicity.

Patient Management Solutions for Comprehensive Oncology Practices

Supportive Care

Properly administer Pain-Management Therapeutics¹

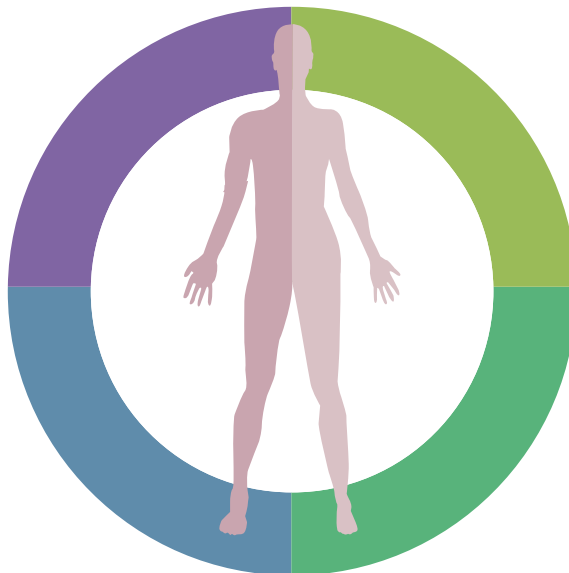
Determine appropriate drugs for other supportive care, including²:

- Cachexia
- Depression
- Delirium
- Dyspnea
- Palliative
- Sleep Disturbance

Chemotherapeutic Response

Treat Chemotherapy-Induced Nausea and Vomiting (CINV)³

Provides recommendations for >30 cytotoxic drugs



Practice Efficiencies

Reduce trial-and-error prescribing and sequential therapy changes

Prevent and treat cancer related infections

Cost Containment

Reduce prolonged and unnecessary hospital stays⁴

Reduce nursing staff time addressing drug toxicity and other supportive care issues^{5,6}

Complements Admera Health's suite of molecular diagnostics:

- Solid tumor profiling for targeted therapy selection: OncoGxOne™ and OncoGxSelect™
- Liquid biopsy allowing for monitoring of targeted therapy treatment: LiquidGx™
- Determine genetic predisposition to QT elongation and cardiomyopathy with CardioGxOne™

¹ Ting, Sonya, and Stephan Schug. "The Pharmacogenomics of Pain Management: Prospects for Personalized Medicine." *Journal of Pain Research* 9 (2016): 49-56. PMC. Web. 24 Mar. 2017.

² Andersen RL, Johnson DJ, Patel JN. Personalizing supportive care in oncology patients using pharmacogenetic-driven treatment pathways. *Pharmacogenomics*. 2016 Mar;17(4):417-34. doi: 10.2217/pgs.15.178. Epub 2016 Feb

³ Lee W. et al. Cancer pharmacogenomics: powerful tools in cancer chemotherapy and drug development. *Oncologist*. 2005 Feb;10(2):104-11.

⁴ Mason, Neil T. et al. "Budget Impact Analysis of CYP2C19-Guided Voriconazole Prophylaxis in AML." *Journal of Antimicrobial Chemotherapy* 70.11 (2015): 3124-3126. PMC. Web. 24 Mar. 2017.

⁵ Plöthner, Marika et al. "Cost-Effectiveness of Pharmacogenomic and Pharmacogenetic Test-Guided Personalized Therapies: A Systematic Review of the Approved Active Substances for Personalized Medicine in Germany." *Advances in Therapy* 33.9 (2016): 1461-1480. PMC. Web. 24 Mar. 2017.

⁶ Collymore DC et al. Genomic testing in oncology to improve clinical outcomes while optimizing utilization: the evolution of diagnostic testing. *Am J Manag Care*. 2016 Feb;22(2 Suppl):s20-5.



PANEL GENES RELATED TO CANCER TREATMENT AND SUPPORTIVE CARE:

ABCB1	APOE	COMT	CYP2C9	DPYD	F5	HLA-B	ITPA	NQO1	TPMT
ACE	ATM	CYP1A2	CYP2D6	DRD1	FAAH	HTR1A	KIF6	OPRM1	UGT1A1
ADRA2A	CDA	CYP2B6	CYP3A4	DRD2	G6PD	HTR2A	MTHFR	SCN2A	UGT2B15
AGTR1	CES1	CYP2C19	CYP3A5	ERCC1	GRIK4	HTR2C	NAT2	SLC6A4	VKORC1
ANKK1	CNR1	CYP2C8	CYP4F2	F2	GSTP1	IFNL3	NOS1AP	SLCO1B1	XRCC1

Provides Guidance for the Use of Multiple Relevant Drugs, Including:

Pain Management Drugs:

Buprenorphine (Subutex®)
Codeine (Codeine®)
Diclofenac (Voltaren XR®)
Fentanyl (Duragesic®)
Hydrocodone/Acetaminophen (Vicodin®)
Hydromorphone (Dilaudid®)
Ibuprofen (Advil, Motrin®)
Lidocaine (Lidoderm®)
Methadone (Methadose®)
Morphine (MS Contin®)
Naproxen (Aleve®)
Oxycodone (Oxycontin®)
Oxycodone/Acetaminophen (Percocet®)
Propofol (Diprivan®)
Tramadol (Ultram®)
Tramadol hydrochloride/Acetaminophen (Ultracet®)

Psychoactive Drugs:

Amitriptyline (Elavil®)
Amphetamine/Dextroamphetamine (Adderall®)
Bupropion (Wellbutrin®)
Desipramine (Norpramin®)
Duloxetine (Cymbalta®)
Haloperidol (Haldol®)
Imipramine (Tofranil®)
Mirtazapine (Remeron®)
Naloxone (Evzio®)
Nortriptyline (Pamelor®)
Olanzapine (Zyprexa®)
Quetiapine (Seroquel®)
Risperidone (Risperdal®)
Trazodone (Desyrel®)
Venlafaxine (Effexor®)

Anti-emetic/Cachexia Drugs

Dexamethasone (Decadron®)
Dolasetron (Anzemet®)
Dronabinol (Marinol®)
Granisetron (Sancuso®)
Ondansetron (Zofran®)
Palonosetron (Aloxi®)

Gastrointestinal Drugs

Dexlansoprazole (Dexilant®)
Esomeprazole (Nexium®)
Famotidine (Pepcid®)
Famotidine/Ibuprofen (Duexis®)
Lansoprazole (Prevacid®)
Omeprazole (Prilosec®)
Pantoprazole (Protonix®)
Rabeprazole (Aciphex®)

Anticoagulant Drugs

Rivaroxaban (Xarelto®)
Warfarin (Coumadin®)

Infectious Disease Drugs:

Dapsone
Daptomycin (Cubicin®)
Nitrofurantoin (Macrobid®)
Ribavirin (Copegus®)
Sulfamethoxazole/Trimethoprim (Bactrim®)
Voriconazole (Vfend®)

Smoking Cessation Drugs:

Bupropion (Zyban®)
Nicotine (Nicoderm®)



Cytotoxic Drugs:

Belinostat (Beleodaq®)
Cabazitaxel (Jevtana®)
Capecitabine (Xeloda®)
Carboplatin (Paraplatin®)
Cisplatin (Platinol®)
Cyclophosphamide (Cytoxan®)
Cytarabine (Depocyt®)
Dabrafenib (Tafinlar®)
Docetaxel (Taxotere®)
Doxorubicin (Doxi®)
Epirubicin (Ellence®)
Erlotinib (Tarceva®)
Fluorouracil (Carac®)
Gefitinib (Iressa®)
Idarubicin (Idamycin®)

Irinotecan (Camptosar®)
Leucovorin (Wellcovorin®)
Mercaptopurine (Purinethol®)
Methotrexate (Trexal®)
Nilotinib (Tasigna®)
Oxaliplatin (Eloxatin®)
Paclitaxel (Abraxane®)
Pazopanib (Votrient®)
Pemetrexed (Alimta®)
Pyrimidinedione (Tegafur-Uracil®)
Raloxifen (Evista®)
Rasburicase (Elitek®)
Ruxolitinib (Jakavi®)
Sorafenib (NexAvar®)
Sunitinib (Sutent®)

Tamoxifen (Soltamox®)
Thalidomide (Thalomid®)
Thioguanine (Tabloid®)
Vincristine (Marqibo®)

Other Supportive Care:

Cardiology
Dentistry
Endocrinology
Immunology
Neurology
Ophthalmology
Rheumatology
Urology

Associated drugs carry pharmacogenomics recommendations put forth by the Food and Drug Administration (FDA), European Medicines Agency (EMA), Clinical Pharmacogenetics Implementation Consortium (CPIC), Dutch Pharmacogenetics Working Group (DPWG), Pharmaceuticals and Medical Devices Agency, Japan (PMDA), and/or related pharmacogenomics publications.