Sonic PGx
Making medicines personal

Customise your patient's medication
Information for Doctors

Genes can account for 95% of how a patient will respond to medication,[1] in addition to age, weight, diet, gender, other medications or medical conditions, and smoking status. This means a medication and/or dose that works for one person may be ineffective or cause side effects in another.

Incorporating pharmacogenetics (PGx) into clinical care has been shown to improve patient outcomes,[2-5] enhance therapeutic efficacy,[6] minimise drug-gene interactions[7] and improve clinical safety.[8,9]

What is Sonic PGx?

Sonic PGx supports clinicians in using their patient's genetic profile to make personalised treatment decisions.

It only needs to be done once and remains relevant for current and new medications.

Who should take the Sonic PGx Panel?

While the Sonic PGx Panel is available to all Australians, it is most useful for patients:

> Currently on or about to commence medications for any of the conditions covered

> Treated with multiple medications experiencing unwelcome side-effects not responding to medication

The Sonic PGx Panel covers a suite of medications and conditions, including:

Condition	
Mental health	Depression
	Schizophrenia
	Bipolar disorder
	Epilepsy
	Anxiety
	Mania
	Obsessive compulsive disorders and phobias
Pain management	
Infectious diseases	
Cancer	
Gut health	Gastroesophageal reflux disease
	Peptic ulcer
	Upper GI symptoms associated with NSAID therapy
Heart health	Anticoagulation
	Arrhythmia
	Hypertriglyceridemia
	Hypercholesterolaemia

Sonic PGx reporting made simple, clear and clinically relevant

Sonic Genetics, in collaboration with internationally-recognised interpretive service Translational Software, provides a comprehensive, evidence-based and clinically applicable report, incorporating recommendations from expert pharmacogenetic groups and associations in an easy-to-read format.

The report includes:

> Prescribing and dosage recommendations for current or proposed medications
> Genotypes and predicted metaboliser status/activity status for each gene tested
> Potential drug-gene and drug-drug interactions

How to arrange a Sonic PGx Panel for your patient

1 Complete the Pharmacogenetics (PGx) Request Form or request the 'Sonic PGx Panel' using your local pathology request form. Maximise the value from the Sonic PGx test by providing clinical data regarding your patient's current or proposed medications.

2 Send your patient to any Sonic Healthcare pathology collection centre for a blood test.

3 Sonic PGx reports are delivered via Sonic Dx or courier, up to 10 days from sample collection.

The Pharmacogenetics (PGx) Request Form can be downloaded from our website, www.sonicgenetics.com.au/pgx. If you would like to register for Sonic Dx in order to receive electronic reports please visit www.sonicdx.com.au.

Cost

Medicare does not cover the cost of the Sonic PGx Panel and your patient will receive an invoice. Current pricing can be found on our website www.sonicgenetics.com.au/pgx.

Why choose Sonic Genetics as your PGx provider

Support: Clinicians can speak directly with our genetic pathologists to interpret their patient's Sonic PGx results.

Quality: Tests are processed in our NATA-accredited laboratories at Douglass Hanly Moir Pathology.

Convenience: Sonic Healthcare offers the largest network of pathology collection centres across Australia.

Experience: More than 30 years of medical leadership with ongoing investments in state-of-the-art equipment and uncompromising commitment to best practice.

References

1. Kalow W, et al. Hypothesis: comparisons of inter- and intra-individual variations can substitute for twin studies in drug research. *Pharmacogenetics.* 1998; 8:283-289
2. Elliott L, et al. Clinical impact of pharmacogenetic profiling with a clinical decision support tool in polypharmacy home health patients: A prospective pilot randomized controlled trial. *PLoS One.* 2017;12(2): e0170905
3. Benitez J, et al. The clinical validity and utility of combinatorial pharmacogenomics: Enhancing patient outcomes. *Appl Transl Genom.* 2015; 5:47–49
4. Bousman C, et al. Concordance between actual and pharmacogenetic predicted desvenlafaxine dose needed to achieve remission in major depressive disorder: a 10-week open-label study. *Pharmacogenet Genomics,* 2017; 27(1):1-6
5. Wang ZQ, et al. Pharmacogenetics-based warfarin dosing algorithm decreases time to stable anticoagulation and the risk of major hemorrhage: an updated meta-analysis of randomized controlled trials. *J Cardiovasc Pharmacol.* 2015; 65(4):364-70
6. Pérez V, et al. Efficacy of prospective pharmacogenetic testing in the treatment of major depressive disorder: results of a randomized, double-blind clinical trial. *BMC Psychiatry.* 2017; 17(1):250
7. Tannenbaum C, Sheehan N. Understanding and preventing drug–drug and drug–gene interactions. *Expert Rev Clin Pharmacol.* 2014 ; 7(4):533–544
8. *Improving the Quality Use of Medicines in Australia: Realising the potential of pharmacogenetics. Australian Centre for Health Research* (2008)
9. Tan Y, et al. Improving drug safety: From adverse drug reaction knowledge discovery to clinical implementation. *Methods.* 2016; 110:14-25