syzygy
July 2020

Sullivan Nicolaides PATHOLOGY
Quality is in our DNA

Genetic testing to inform tamoxifen prescribing

Analysis of the CYP2D6 gene identifies breast cancer patients who will benefit from changes to prescribing.

Key points

- For ~70% of breast cancers, hormone therapy such as tamoxifen is a long-established form of treatment.
- Clinical effectiveness is linked to the patient's ability to metabolise tamoxifen to endoxifen.
- Metaboliser status is a key determinant of endoxifen concentration in serum, and that endoxifen concentration is inversely associated with risk of breast cancer relapse or death.[1]
- Sonic Genetics PGx panel includes analysis of gene variants and reports metaboliser status.

The metabolism of tamoxifen

The metabolism of tamoxifen is complex. As a weak anti-oestrogen, it is converted by the cytochrome P450 enzymes CYP3A4 and CYP2D6 to endoxifen, which has 100-fold more anti-oestrogen activity than the parent drug. The clinical effectiveness of tamoxifen is tied to the activity of the CYP2D6 enzyme. Patients with low CYP2D6 activity (poor metabolisers) have a higher risk of breast cancer recurrence.[1,3]

Prescribing recommendations

In brief, there is a strong recommendation that patients who are poor CYP2D6 metabolisers should avoid tamoxifen and take an aromatase inhibitor which is not metabolised by CYP2D6.[1]

For those patients who are intermediate CYP2D6 metabolisers either an aromatase inhibitor or an increased dose of tamoxifen may be considered.

Patients who are normal or ultra-rapid metabolisers should be prescribed the normal dose of tamoxifen.

Medications that inhibit CYP2D6 enzyme

In addition to gene-mediated low CYP2D6 enzyme activity, CYP2D6 metabolism can be directly inhibited by various medications to varying degrees.

Antidepressants and pain medications are a particularly important consideration.

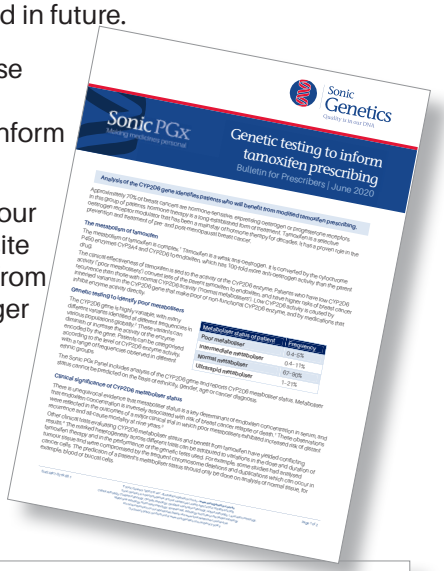
Genetic testing to identify poor metabolisers

The CYP2D6 gene is highly variable with many different variants identified at different frequencies in various populations globally.[2] However, metaboliser status cannot be predicted on the basis of ethnicity, gender, age or cancer diagnosis.

The Sonic PGx panel provides analysis of the CYP2D6 gene and reports its metaboliser status. The clinician's report includes the genotype result, metaboliser status for all genes included in the panel, and implications for the drug choice or dose. Panel-based testing is advantageous because it provides information relevant to both current medications and those that may be prescribed in future.

For further information please refer to the new Prescribers Bulletin: Genetic testing to inform tamoxifen prescribing.

It can be downloaded from our sonicgenetics.com.au website or a copy may be obtained from your Medical Liaison Manager on 1300 767 284.



How to request a PGx panel

Ordering: This test can be requested by any medical practitioner.

Request form: A specialised request form is recommended, but not mandatory. Download the Pharmacogenomic (PGx) request form from sonicgenetics.com.au/pgx

Sample collection: Specimens can be collected at any Sullivan Nicolaides Pathology collection centre.

Clinical notes: List current and proposed medications. Indicate any medications that are known to have previously caused problems or concerns for the patient.

Turnaround time: 10 business days

Cost: There is no Medicare rebate.
Refer to sonicgenetics.com.au for up-to-date pricing.

References

1. Goetz MP, Sangkuhl K, Guchelaar H, et al. Clin Pharmacol Ther. 2018;103(5):770–777
2. Gaedigk A, Sangkuhl K, Whirl-Carrillo M, et al. Genet Med. 2017;19(1):69–76
3. Schroth W, Goetz M, Hamann U, et al. JAMA. 2009; 302(13):1429–1436

Sullivan Nicolaides PATHOLOGY

Quality is in our DNA

ONLINE RESULTS & REPORTING SERVICE: Webster to be discontinued from late 2020

We urge all doctors who have yet to move from Webster to Sonic Dx to do so as soon as they can.

Our online results application Sonic Dx, which was introduced six years ago to replace our older results service Webster, will be used exclusively from the end of 2020.

Webster's technology is now obsolete and we are discontinuing support so that we can focus investment on developing the more advanced capabilities of Sonic Dx.

Sonic Dx offers us the ability to develop services that cannot be provided on Webster. Feature-rich, intuitive and easy to use, it allows direct access to our secure database from any location.

- No need for additional software
- Web browser approach ensures new features are immediately available
- Password protected with encrypted transmissions
- Provides you with a history of all accesses
- Creation of cumulative reports and graphs
- All data is backed up and long-term availability assured.

How to make the move

Using your existing Webster login and password, you can access Sonic Dx on your computer or via the Sonic Dx app on your mobile device. Simply download the app from your Android or Apple app store, enter your existing Webster username and password, select your <entity name> as your pathology practice, and you're ready to go! (If you don't remember your username and password, please go to sonicdx.com.au/register).

Our Medical Liaison and Doctor IT teams are available to assist if you have any concerns about transition. They can help in setting up Sonic Dx to suit your preferences, using as many or as few of the features as you need.

For further help, please contact Doctors' IT Services on (07) 3377 8611 or your Medical Liaison Manager on 1300 767 284.

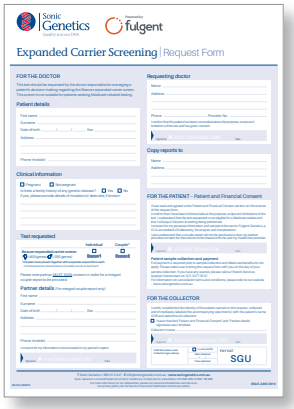
New request form templates make it easier to order prenatal genetic screening

New request form templates have been created for two of our prenatal genetic screening tests, the non-invasive prenatal test Harmony®, and the Beacon Expanded Carrier screening test.

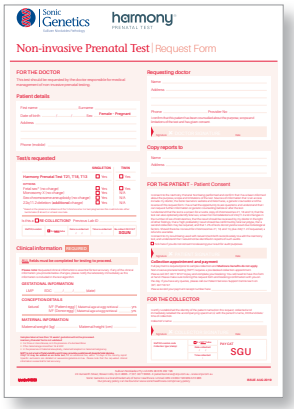
They are available in Best Practice and Medical Director, and as for other templates, simply import the patient's details and complete the relevant details for the test.

The requests can also be downloaded from snp.com.au snp.com.au/clinicians/requesting-pathology/request-forms/

For further help, please contact your Medical Liaison Manager on 1300 767 284 or Doctors' IT Services on 3377 8611.



The Beacon expanded carrier screen tests more than 400 genes to identify if someone is a carrier of a genetic condition that could affect their child. This comprehensive screen can detect the one in 20 couples at high risk of having an affected child.

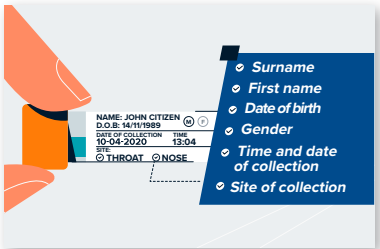


Non-invasive prenatal testing (NIPT) is a test of a pregnant woman's blood to screen for a serious chromosomal disorder in the developing fetus. The quality and stability of the Harmony test has been proven in more than 1,400,000 patient samples world-wide.

Specific site details of swabbed samples must be provided when ordering infectious disease testing

As types of infectious organisms differ from one area of the body to the next, it is essential that the specific location of the area being swabbed is recorded on the request form. Without this information the lab has no choice but to set up several tests. This slows the process, wastes time and resources, and delays results.

We encourage doctors to provide as much clinical information as possible on the request form. When recording the location of the swabbed area, please be specific, for example, inner ear or outside of ear; left leg or right leg, and so on.



SULLIVAN NICOLAIDES PTY LTD • ABN 38 078 202 196

A subsidiary of Sonic Healthcare Limited • ABN 24 004 196 909

24 Hurworth Street • Bowen Hills • Qld 4006• Australia • Tel (07) 3377 8666 • Fax (07) 3318 7409

PO Box 2014 • Fortitude Valley • Qld 4006 • Australia • www.snp.com.au

Meridio 356997 July 2020

Correct at time of publication.