From: Prof Allen KC CHAN
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PWH

Tel / Fax No: 3505 3589 / 2648 4262

Date: 13 September 2021

To: All COSs, DOMs & Medical staff, NTEC

Cc: Dr Beatrice CHENG, HCE(PWH)/CCE(NTEC)
Dr David SUN, HCE(NDH)
Dr NC SIN, HCE(AHNH/TPH)
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Dr Michael CHAN, CCPath(NTEC)
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Ms Karen LAW, DM, PWH(CP)

Enhanced *NUDT15* and *TPMT* Pharmacogenetic Testing for Susceptibility to Thiopurine Haematotoxicity

Implementation date: 17 September 2021

In order to expand the scope of *NUDT15* and *TPMT* pharmacogenetic testing for thiopurine-induced haematotoxicity to include both pre-treatment screening and post-treatment suspected adverse drug reaction, *NUDT15* and *TPMT* genetic testing will be done using Sanger sequencing and/or PCR based 5'-nuclease assays with fluorescence detection from 17 September 2021.

The new targeted *NUDT15* and *TPMT* genetic testing identifies more than 99% intermediate and poor metabolizers in the local population, as defined by the Clinical Pharmacogenetics Implementation Consortium 2018 guidelines (Clin Pharmacol Ther. 2019; 105:1095-1105). Nevertheless, please note that actual enzyme activity and risk of adverse reactions to thiopurine therapy may be affected by additional genetic and non-genetic factors not evaluated by this test.

The new targeted *NUDT15* and *TPMT* genetic testing can be requested using the Generic Clinical Request System (GCRS) for patients planning for or currently on thiopurine treatment:

- Test name: "**NUDT15/TPMT**" under biochemistry
- Specimen requirement: **TWO tubes of 3mL EDTA whole blood**
- Specifying the patient's ethnicity / ancestry during test requesting will help to prioritize target variants testing.
- The freshly collected EDTA bloods should be delivered to Chemical Pathology Laboratory by courier. Do NOT transport specimens with the pneumatic tube transport system.

For any enquiries, please contact our Duty Biochemist via the PWH operator at 3505 2211.

Thank you for your kind attention.

Sincerely yours,

Prof Allen KC CHAN

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