

Changes in cancer biomarker testing for Breast, Endometrial, Prostate, Thyroid and Urinary Bladder cancers

Audience: Internal and External Clients

Issuing Division: Molecular Diagnostics Laboratory and Anatomic Pathology

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With the implementation of next generation sequencing (NGS) and available funding from CCO, available immediately, we are currently offering our biomarker testing on breast, endometrial, prostate, thyroid and urinary bladder cancers.

1. Breast cancer

- Newly diagnosed breast cancer – ER, PR by IHC and HER2 by IHC/FISH
- Newly diagnosed ductal carcinoma in situ (DCIS) – ER by IHC
- Advanced/metastatic breast cancer, by clinician request - *PIK3CA* gene

2. Endometrial cancer

- Newly diagnosed carcinoma – MLH1, MSH2, MSH6, PMS2, p53 by IHC
ER and PR, by clinician request
- Serous endometrial carcinoma, by clinician request – HER2 by IHC/FISH
- Newly diagnosed high-grade endometrial carcinoma – *POLE* gene

3. Prostate cancer

- Newly diagnosed advanced*/metastatic tumours – *ATM, BRCA1, BRCA2, PALM2* gene panel
– AR by IHC

4. Thyroid cancer

- All metastatic thyroid cancer, including sporadic medullary and radio-iodine refractory well differentiated tumour – *BRAF, HRAS, KRAS, NRAS, NTRK1, NTRK2, NTRK3, PPARG, RET* gene panel

5. Urinary bladder cancers

- Newly diagnosed advanced*/metastatic tumours – *FGFR2, FGFR3* gene panel

* Advanced bladder cancers: All \geq pT3 bladder cancers at surgery, all N+, pT2 in transurethral resections if patient not undergoing cystectomy

* Advanced prostate cancers: All \geq pT3 prostate cancers at surgery, all N+; Global Grade Group 3-5 on biopsy