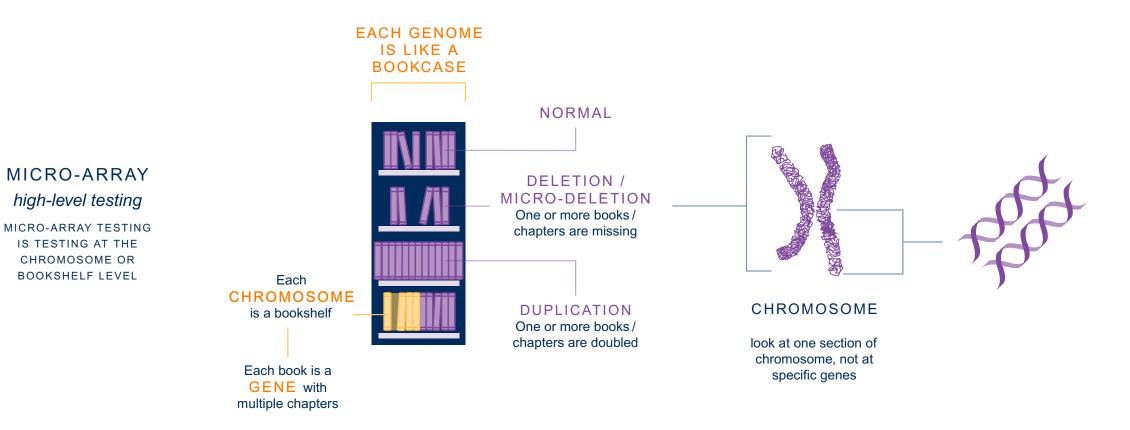
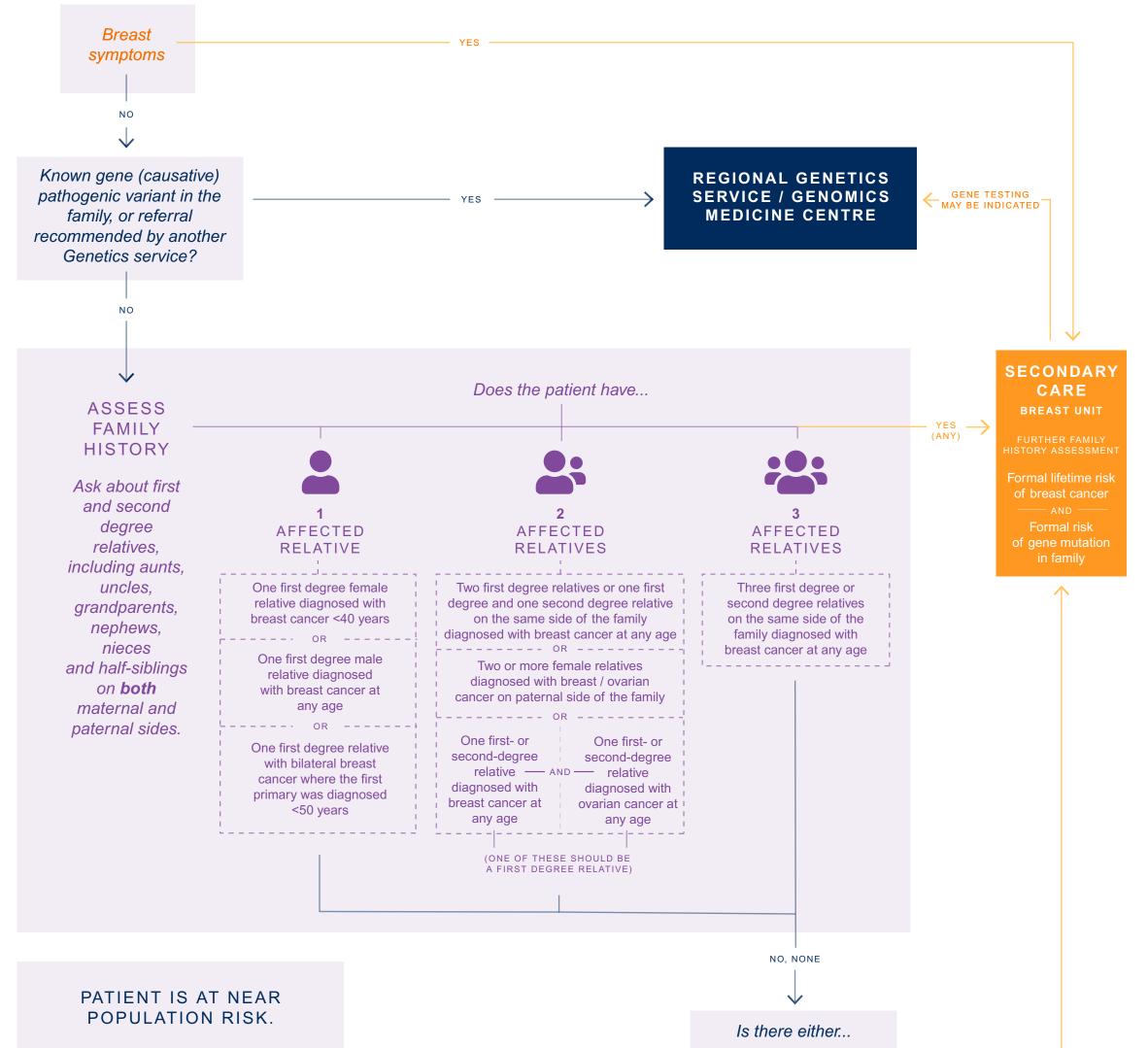


CELL NUCLEUS CHROMOSOME GENE DNA



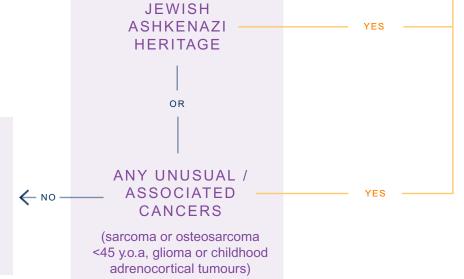
## PATIENT PRESENTING WITHOUT A PERSONAL HISTORY OF BREAST CANCER

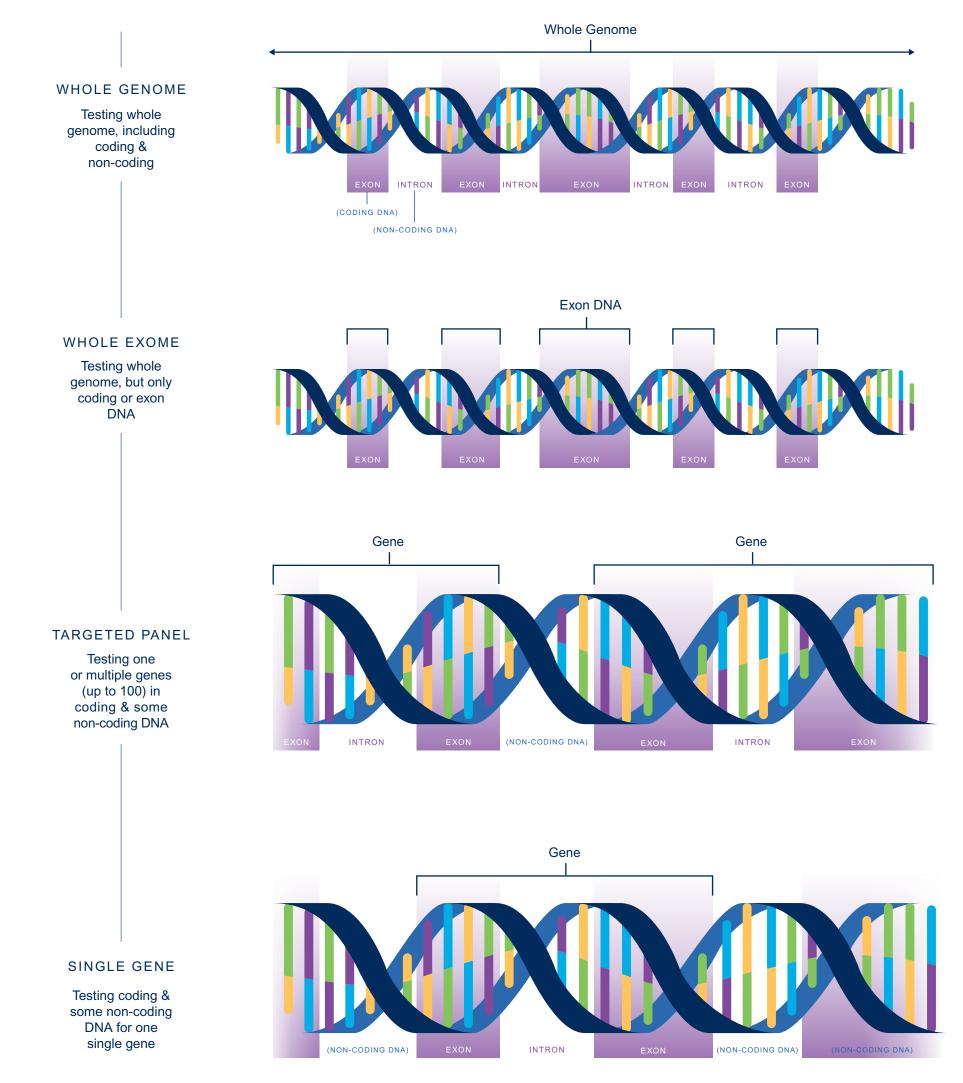


Give advice as per NICE Guideline CG164: Familial Breast Cancer: If the family history changes (another relative is diagnosed with cancer) or if they themselves develop breast symptoms.

They are at similar risk to any other woman in the general population. Breast cancer is common (population lifetime risk is 1 in 8) and therefore many women will have a relative affected with breast cancer without being at increased risk of developing breast cancer themselves. The family history today doesn't suggest that their family is one of the small proportion with an underlying genetic cause.

Breast awareness information • HRT and Contraception advice • Lifestyle advice: diet / alcohol / smoking; breast feeding; family size and timing • Advice to attend national screening programmes, including NHS BSP when invited Is there only one female relative affected with unilateral breast cancer at >40 y.o.a. (on either maternal or paternal sides)?

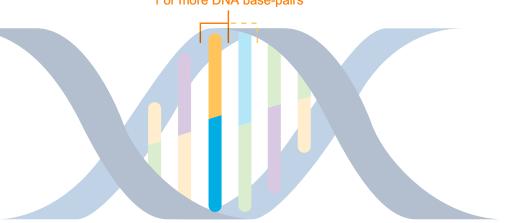




DIAGNOSTIC

PREDICTIVE

Targeted testing for genetic alteration (1 or more base pairs) within a gene which has already been identified in another family member e.g. a change in a single base pair resulting in variant BRCA1



## SOMATIC DNA TESTING

Somatic DNA variants occur after conception, and can occur in any cell in the body except germ cells.

XXXX

Z

ADON

LOOOL

ADD

XXXX

TUMOR

Somatic DNA variants are therefore not inherited, and cannot be passed to offspring.

Somatic DNA variants may (but do not always) cause cancer: Somatic DNA testing is generally used to test tumour tissue, specifically to guide cancer treatment

Examples would be HER2 testing in breast cancer when considering treatment with Herceptin, or EGF-R testing in non-small cell lung cancer

## CONSTITUTIONAL DNA TESTING

Constitutional DNA is DNA found in every cell of the body, including germ cells, i.e. egg or sperm. Also called germ-line DNA as it is the source of DNA for all cells in the body.

- Constitutional DNA may be passed to offspring.

Constitutional DNA testing (usually via blood sample) tests for inherited disorders.

Examples would be testing for BRCA1 or BRCA2 gene variants which would confer a high risk of developing breast and ovarian cancer in women.

## NHS GENOMIC MEDICINE SERVICE

NHS GENOMIC MEDICINE SERVICE

