1. **Confirm your patient's understanding of their cancer background: including their treatment and diagnosis**
    - Opening lines: 'you've come to clinic with a TNBC, do you understand what this means?'
    - "The type of cancer you have makes us think about an inherited cause"
    - Explain that most cancers are not caused by an inherited gene change, but instead are ***sporadic*** or happen by chance.

2. **Take a simple family history pedigree covering cancers in the patient's:**
    - Any children of the patient
    - Siblings (brothers and sisters), their children.
    - The patient's parents
    - The patient's aunts + uncles on both sides
    - Maternal and Paternal grandparents

3. **Ask if the patient's parents are related by blood.**
4. **Ask if the patient has any Eastern European or Ashkenazi Jewish heritage?**
5. **Explain the patient's eligibility for genetic testing:**
    - Family link
    - Pathology link/mainstreaming criteria

6. **Discuss the wider impact on the patient's family--the 'ripple effect' of cascade testing due to the nature of how alterations in the tumour suppressor genes are passed down in an autosomal dominant pattern:**
    - 'There's a 50% chance that one of your first degree relatives share this change if we found one'
    - Explain who first degree relatives are
    - The cancer risk associated with these genes for men are smaller but still significant (see 'cancer risks section')
    - Explain that if a pathogenic variant was found in the patient, their relatives would be eligible for predictive testing. This would involve attending their GP for a referral to their local Clinical Genetics team to arrange testing.

7. **R208 panel of genes and the relative risk associated with a pathogenic variant in one of them:**
    - 'We're looking at 7 Genes associated with breast cancer, these are called 'tumour suppressor genes'. Explain their normal function and what happens if they lose this function.
    - 'We're looking for a change in one of those genes to see if it's what has caused your breast cancer'
    - "A change in one of these genes can put you at significantly higher risk of developing breast, prostate, ovarian or pancreatic cancer in your life. Would you like to go through the exact percentages compared to the general population risk?"

8. **What are the possible result of the test and what will the next steps be?:**
    - **Positive for a pathogenic variant:**
        i. Interventions to cover: Surgery/Screening/Chemoprevention/Targeted therapies.
        ii. Referral to clinical genetics
    - **Negative:**
        i. No further action needed unless the patient has a significant family history.
        ii. If patient has significant family history→ Referral to clinical genetics.
    - **Variant of Uncertain Significance:**
        i. "Rarely, a genetic change is identified that it is hard to interpret as not enough information exists to say if it is the cause of your cancer or not. A very small quantity of these changes will be reclassified in the future, if enough evidence is found to link them to cancer development. The genetics team will discuss this further."

ii. Referral to clinical genetics

9. How is the testing completed?

- Blood test sent to local Genomics Lab Hub.
- 6-8 weeks turnaround for results to be reported on and sent back to the local Cancer Team.

10. Pre-Implantation Genetics

11. Cover information about the patient's DNA storage/future access:

- "I need to advise you on the storage of your DNA. It is normal laboratory practice to store the DNA extracted from the sample even after the current testing is complete. The sample might be used as a 'quality control' for testing machinery or for training, or used as a reference for predictive testing of family members. This will be completed only with your consent. Information from the test will be stored to help improve our understanding of genetic variations."

12. Insurance, loans, mortgages:

From Dept Health and Social Care 'Code on Genetic Testing and Insurance' Dec 2022

- All members of the ABI are signed up to the Code, and insurance companies who are not members can also sign up.
- The Code replaces the concordat and moratorium on genetics and insurance. It will be reviewed every 3 years.
  - The Code commits insurance companies to:
    i. treat applicants fairly and not require or pressure any applicant to undertake a predictive or diagnostic genetic test
    ii. not ask for, or take into account the result of a predictive genetic test, except when the life insurance is over £500,000 and the applicant has had a predictive genetic test for Huntington's Disease
    iii. not ask for, or take into account, the result of any predictive genetic test obtained through scientific research
  - The Code recognises that a diagnostic genetic test is the same as any other diagnostic medical test (such as a blood test). This means you might need to tell the insurance company about the results of a diagnostic genetic test when you apply for insurance. You might be asked for this information as part of the application form, or it may be included in your medical report if the insurance company asks to see it as part of your application, and the GP thinks the test is relevant.
  - Signpost to ABI website for more help: www.abi.org.uk/data-and-resources/tools-and-resources/genetics/genetic-testing/