Return of Negative Results

- Even when genetic testing is negative, genetics still play a role in most cases of autism and neurodevelopmental disorders. Many cases are multifactorial, resulting from an interaction of several genes with environmental factors. A helpful counselling tool is the “**Jar Model”** of multifactorial inheritance developed by Dr. Jehannine Austin’s team: **Figure - PMC (nih.gov)[1]**
- Discussion with the family should convey that no genetic diagnosis has been made by either test performed, however this can not rule out all possible genetic conditions. For example, most single-gene disorders would not be detected by chromosomal microarray and Fragile X testing.
- Consider referral to genetic services for coordination of further testing if any of the below criteria are met
  - Multisystem involvement (e.g. presence of congenital anomalies or significant physical health concerns)
  - Multiple family members similarly affected
  - Parents of the affected individual are consanguineous (related by blood)
  - Family is highly interested in pursuing further testing (e.g. for reproductive risk assessment for other family members) and patient has moderate to severe functional impact

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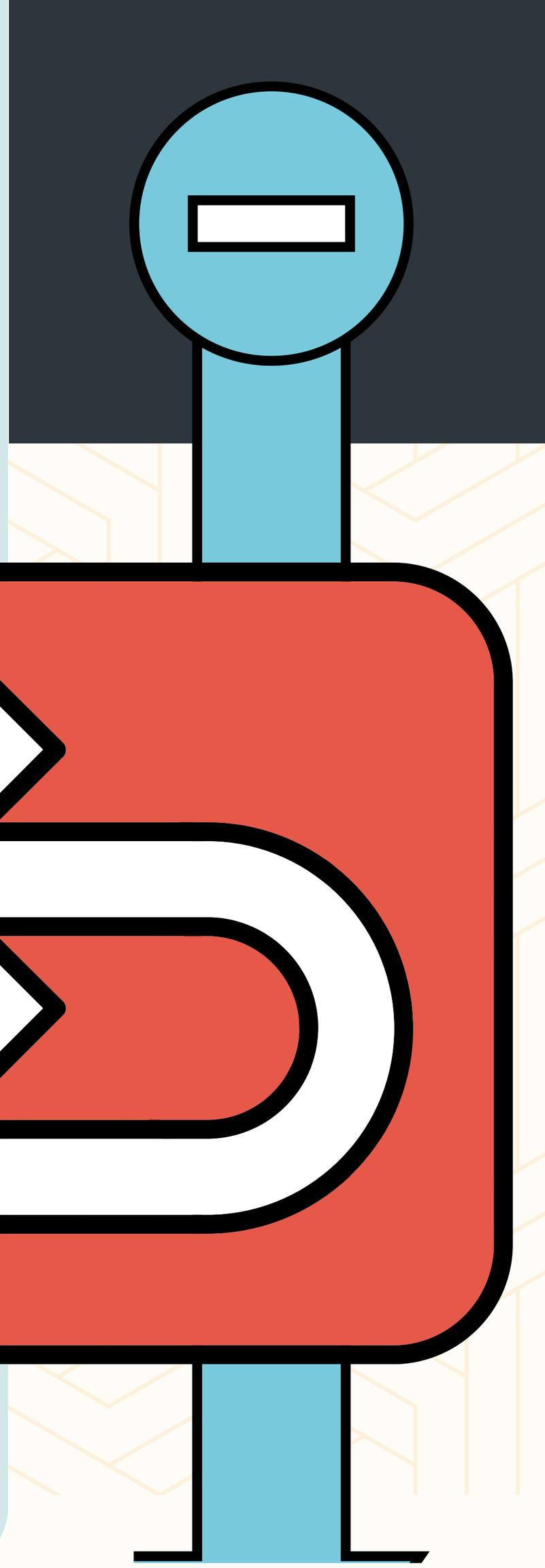

Letter / Consult Note Template for Negative Results Return

Template is written to be saved as a ConnectCare smart phrase. Please feel free to adapt and modify to suit your practice.

This letter is to summarize genetic testing completed to date for @NAME@. Genetic testing was offered due to their diagnosis of *** and these investigations have now been completed. The results of genetic testing completed for @FNAME@ are summarized below:

- Chromosomal Microarray: No clinically significant gains or losses identified.
- Fragile X Syndrome Testing: Negative, no expansion detected within the FMR1 gene.

We discussed that these results greatly reduce the likelihood of a genetic diagnosis for @FNAME@ but cannot rule out a genetic cause beyond the detection limits of available testing. In the absence of a genetic diagnosis, ***(diagnosis) is thought to be of multifactorial etiology. Multifactorial disorders result from an interaction of several genes with environmental factors. Recurrence risks are estimated from empiric evidence as well as the number of affected individuals in the family, and how they are related. Management should continue to be based on @FNAME@'s presenting symptoms.

1] Austin JC. Evidence-Based Genetic Counseling for Psychiatric Disorders: A Road Map. Cold Spring Harb Perspect Med. 2020 Jun 1;10(6):a036608. doi: 10.1101/cshperspect.a036608. PMID: 31501264; PMCID: PMC7263094.