**GREM1 Mutations**

**What You Should Know About GREM1 Mutations**

Individuals with a certain type of mutation in the **GREM1** gene, called a duplication, have a condition called Hereditary Mixed Polyposis Syndrome (HMPS) and are at an increased risk to develop various types of colorectal polyps and colorectal cancer. This specific **GREM1** duplication is common in the Ashkenazi Jewish population and is currently the only known mutation in **GREM1** that is associated with increased cancer risks.

**Cancer Risks Associated with a GREM1 Mutation**

There is currently limited information regarding the specific lifetime cancer risks for individuals with a **GREM1** mutation.

- Individuals with a **GREM1** mutation have an increased risk to develop different types of colorectal polyps, including those of adenomatous, hyperplastic, and hamartomatous histology.
- Individuals with a **GREM1** mutation have an increased risk for colorectal cancer. However, the specific lifetime risk is not well established.

**Risks to Family Members**

Mutations in the **GREM1** gene are inherited in an autosomal dominant fashion. This means that children, brothers, sisters, and parents of individuals with a **GREM1** mutation have a 1 in 2 (or 50%) chance of having the mutation as well. Individuals with a **GREM1** mutation may develop colon polyps, colon cancer, or none of the above. Both males and females can inherit a familial **GREM1** mutation and both males and females can pass it on to their children.

**Managing the Cancer Risks**

The National Comprehensive Cancer Network (NCCN V2.2019) recommends the following surveillance for individuals with a **GREM1** mutation.

- Begin colonoscopy at 25-30 years of age
  - If negative, repeat colonoscopy every 2-3 years
  - If polyps are found, colonoscopy is recommended every 1-2 years with consideration of surgery if the polyp burden becomes unmanageable by colonoscopy
- Surgical evaluation, if appropriate

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