UT Southwestern
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Lynch syndrome: *EPCAM* Mutations

What You Should Know About Lynch syndrome (*EPCAM* Mutations)

Lynch syndrome is the most common type of hereditary colon cancer and accounts for 2-4% of all colon cancers. Families with Lynch syndrome often have multiple family members with colon, uterine or other cancers, typically diagnosed before age 50. Lynch syndrome is caused by mutations in one of five different genes, and the specific cancer risks and management recommendations depend on the gene.

Cancer Risks Associated with Lynch syndrome (*EPCAM* Mutations)

Cancer Type	*EPCAM* Mutation Carrier Cancer Risks	General Population Lifetime Cancer Risks
Colorectal	43-52%	4.5%
Uterine/ endometrial	21-57%	2.7%
Ovarian	10-38%	1.3%
Gastric	0.2-16%	<1%
Small Bowel	1-10%	<1%
Urothelial	2-18%	<1%
Bladder	4-17%	2%
Prostate	30-32%	11.6%
Breast	12%	13%
Pancreatic	Not well- established	1.5%
Brain/ Central Nervous System (CNS)	Not well-established	<1%

Risks to Family Members

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

When an individual inherits two *EPCAM* mutations (one from each parent), this causes a syndrome called congenital tufting enteropathy (CTE). CTE is a rare chronic diarrheal disorder presenting in infancy.

Managing Cancer Risks

The following surveillance is recommended by the National Comprehensive Cancer Network (v3.2019):

Colon Cancer: Colonoscopy every 1-2 years starting at age 20-25 or 2-5 years prior to earliest colon cancer diagnosis in the family, whichever comes first. If colon cancer is detected, partial or complete removal or colon should be considered

Uterine/Ovarian Cancer

- Screening via uterine biopsy every 1-2 years and transvaginal ultrasound may be considered
- CA-125 screening and transvaginal ultrasound can be considered (these tests have limited ability for early detection of ovarian cancer)
- Removal of ovaries and uterus after child-bearing is complete can be considered

Gastric/ Small Bowel Cancer: upper endoscopy every 3-5 years, beginning at age 40 for individuals with a family history of gastric or small bowel cancers, or from countries with a high incidence of gastric cancer.

Urothelial/ Bladder Cancer: Annual urinalysis beginning at age 30-35

Prostate Cancer: screening may be considered based on personal risk factors and family history

Breast Cancer: screening may be considered based on personal risk factors and family history

Pancreatic Cancer: Annual abdominal MRI/ Magnetic resonance cholangiopancreatography (MRCP) and/ or upper endoscopic ultrasound (EUS) beginning at age 50 or 10 years before the earliest diagnosed pancreatic cancer in the family for individuals a first or second degree relative with pancreatic cancer.

Brain/ CNS: Annual physical examination/ neurological exam starting at age 25-30

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