ASGE Guideline on Screening for Pancreatic Cancer in Individuals with Genetic Susceptibility: Summary and Recommendations

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Background

- Pancreatic cancer
  - Lifetime incidence of 1.6% and 5-year survival of 10%
  - Accounts for 3% of all newly diagnosed cancers
  - 8% of all cancer related deaths in the US in 2020
- Diagnosis at early stages of disease → improved survival:
  - 93% 10-year survival among stage 0 cancers.
  - 34%-39% 5-year survival among stage 1 cancers.
- After symptoms develop, ~80% of pts → inoperable disease.

Definitions

Familial pancreatic cancer (FPC) kindreds:

- Patients with at least a pair of 1st degree relatives with pancreatic cancer without an association with a known hereditary cancer syndrome.
- Autosomal-dominant inheritance of a rare allele as the likely etiology.

Recommendations

- In individuals at increased risk of pancreatic cancer because of genetic susceptibility → screening for pancreatic cancer compared with no screening.
- In individuals at increased risk of pancreatic cancer because of genetic susceptibility → annual screening be performed.
- Age to begin screening → varies by genetic condition (see Table 1).

Screening Modalities

- Suggest screening with EUS, EUS alternating with MRI, or MRI based on patient preference and available expertise.
- **EUS** may be preferred as the initial screening test:
  - Very high risk for pancreatic cancer i.e. Peutz-Jeghers syndrome and FAMMM syndrome.
  - Procedural combination → screening upper endoscopy or colonoscopy (eg, Lynch and Peutz-Jeghers syndrome)
  - Contraindication to MRI (eg, claustrophobia, contrast allergy, implanted metal, and renal failure).
- **MRI** may be preferred:
  - Increased risk of adverse events from anesthesia or invasive procedures
  - Those patients with high value on avoiding invasive testing
  - Combination screening→MRI may be combined with other imaging (eg, enterography for Peutz-Jeghers syndrome).

Recommended Screening Initiation

Syndrome	Gene(s)	Estimated cumulative lifetime risk of pancreatic cancer (%)	Gene locus	Start Screening
Hereditary breast/ovarian cancer	BRCA2, BRCA1/PALB2	≤5 (BRCA1); 5 to 10 (BRCA2)	13q	Age 50 or 10 years earlier than the youngest relative with pancreatic cancer
Ataxia telangiectasia	ATM	6 to 10	11q	
FPC syndrome	-	-	-	
Hereditary nonpolyposis colon cancer (Lynch syndrome)	DNA mismatch repair genes	<5 to 10 (highest [6.2%] for MLH1; lowest [0.5] for MSH2)	2p, 3p, 7p	
FAMMM syndrome	CDKN2A	10 to 21	9p	Age 40 or 10 years earlier
Hereditary pancreatitis	PRSS1 (AD)	25 to 44	7q, 5q	
Peutz-Jeghers syndrome	STK 11	11 to 36	19p	Age 35 or 10 years earlier

Sawhney et al. ASGE guideline on screening for pancreatic cancer in individuals with genetic susceptibility: summary and recommendation
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UpToDate Inherited cancer syndromes associated with increased risk of pancreatic cancer.