# Provincial Pancreaticobiliary Mass Diagnosis Pathway

Quick Links: Primer & Expanded details | Provider resources | Patient resources | Provide feedback

Patients with a pancreaticobiliary mass may differ in presentation and severity of illness.
This pathway is for patients presenting with symptoms of, or incidental finding of, a pancreaticobiliary mass.

**Patient presents with symptoms or solid mass**- Urgency of evaluation depends on the number of risk symptoms, duration, and the patient's overall stability

**Higher risk features of malignancy** (the presence of 2 or more of these features increases likelihood of malignancy)

- Abdominal and/or mid-back pain
- Unintentional weight loss (≥5% TBW in 6-12 months)
- Jaundice/dark urine/acholic stool
- Nausea and vomiting
- Abdominal swelling
- Age >50 years

**Other features**

- Itchy skin
- New diagnosis of either:
  - Diabetes
  - DVT

**Assess for alarm symptoms:**

- Jaundice with fever
- Intractable nausea/vomiting
- Acute severe abdominal pain unresponsive to analgesia
- Appears acutely unwell

**Send to ED or Call RAAPID**
(NORTH 1-800-282-9911/ SOUTH 1-800-661-1700)

**Incidental pancreatic cyst found on diagnostic imaging**

Solid component present or patient symptomatic?

Yes

No

Follow advice provided by reporting Radiologist, refer to expanded details.

## Investigations:

**Physical assessment:** assess for cachexia, jaundice, abdominal mass, ascites

**Labs**: CBC, Creatinine, ALT, AST, ALP, Lipase, direct + indirect Bilirubin, INR, Glucose

**DI**: Ultrasound Abdomen (if not already performed) - complete within 1 week. If pancreas not visualized order CT Abdomen.

## Management:

| | |
|---|---|
| Normal ultrasound and low clinical suspicion | Primary Care to monitor for changes, reassess as required |
| Normal ultrasound but high suspicion of malignancy based on clinical exam and/or labs | Order CT Abdomen/Pelvis and follow-up as indicated |
| Gallstones with no other findings on ultrasound | Elevated Liver Enzymes/ Bilirubin- **Refer to GI for EUS +/- ERCP**<br>Normal Liver Enzymes/Bilirubin- **Refer to General Surgery if symptomatic** |
| High suspicion of malignancy on imaging | **Refer to specialty care in zone (see link)**, Expedited CT Chest/Abd/Pelvis should be arranged, discuss with specialty care to order (radiologist/GI/Surg) |

If your patient is diagnosed with advanced cancer, consider:
**Integrating An Early Palliative Approach to Advanced Cancer Care (Shared Care)- see expanded details**
If required, call RAAPID for Palliative Care advice

*This primary care pathway was co-developed by primary and specialty care and includes input from multidisciplinary teams from all five zones, Patient and Family Advisors, and the Provincial Pathways Unit. It is intended to be used in conjunction with specialty advice services, when required, to support care within the medical home.*

# EXPANDED DETAILS

## Pathway Primer

- In 2023 approximately 7200 Canadians were diagnosed with pancreatic cancers, and 5900 people died of the disease [2]. “Most patients with pancreatic cancer present with nonspecific symptoms at an advanced stage with disease that is not amenable to curative surgery. No effective screening exists. The 5-year survival rate approached 10% for the first time in 2020, compared with 5.26% in 2000” [10]. Therefore, it is important that patients with pancreatic masses be evaluated in an expedited manner.
- Pancreatic Cancer can be divided into two main groups, ductal and neuroendocrine. Over 95 percent of cancers of the pancreas are ductal in origin. Neoplasms arising from the endocrine pancreas (i.e., islet cell tumors) comprise no more than 5 percent of pancreatic neoplasms [11].
- Pancreatic neuroendocrine tumours (NETs) are less common than pancreatic ductal cancers. Pancreatic NETs can be benign or malignant, malignant NETs are referred to as pancreatic endocrine cancer. Pancreatic NETs tend to have a better prognosis compared to ductal cancers [11].
- Not all pancreatic masses are malignant. Imaging studies alone cannot provide a definitive diagnosis, and effective patient management requires confirmation of the mass's nature—typically through cytological or histological analysis. Endoscopic Ultrasound (EUS) with Fine Needle Aspiration (FNA) or Fine Needle Biopsy (FNB), offers a minimally invasive diagnostic option. Unlike ultrasound-guided procedures, EUS-FNA/B reduces the risk of skin or peritoneal contamination and is less invasive than surgical approaches [1]. EUS +/- FNA/B is performed by an interventional endoscopist.
- Supportive care delivered by a multidisciplinary team should be seamlessly integrated into the therapeutic management of pancreatic cancers**.** This collaborative approach helps optimize survival outcomes, enhance quality of life, and ensure effective symptom control. Key areas of focus include nutritional support, pain management, thrombosis prevention and treatment, psychosocial care, and advance care planning. Additionally, complications such as bile duct and duodenal obstruction present further clinical challenges that require timely and coordinated intervention [10].

## Risk factors of Pancreatic Cancer

### Modifiable Risk Factors:

- Smoking [3,4,7]
- Obesity [4,7]
- Diabetes [3,4]
- Alcohol Consumption [3,4]
- Diet [4,7]
- Physical Inactivity [7]
- Chemical Exposure [6]

### Non-Modifiable Risk Factors:

- Age: Risk increases after age 50, and more significantly after age 60 [7].
- Genetic conditions: Several hereditary syndromes are associated with increased risk, including Familial Atypical Multiple Mole Melanoma (FAMMM) syndrome, Lynch syndrome, Li-Fraumeni syndrome, Hereditary Breast and Ovarian Cancer (HBOC) syndrome, Hereditary Pancreatitis, and Peutz-Jeghers syndrome. [8].
- Sex: Pancreatic cancer is slightly more common in men than women [7].
- Genetic ancestry: African Americans have a higher incidence of pancreatic cancer compared to White Americans, thought to be predominantly from increased prevalence of other social risk factors [7].
- Pancreatitis: Chronic inflammation of the pancreas is a known risk factor [3].
- Pancreatic cystic tumors: Certain pancreatic cysts can increase the risk of developing pancreatic cancer [6].

## Symptoms and Presentation

The presence of 2 or more symptoms increases the likelihood of a pancreatic mass and should inform the urgency of further evaluation. Pancreatic cancer often does not cause symptoms until the disease is advanced. When symptoms do occur, they are frequently non-specific, with abdominal pain, jaundice, and unintentional weight loss being the most common initial presentations:

- Pain (abdominal pain, epigastric pain, and back pain)
  Pain is one of the most frequently reported symptoms. Even small tumours (<2cm) can cause symptoms. The pain usually has a gradual onset, can be intermittent, and made worse by eating or laying down. The pain can radiate to the sides or straight through to the back [12,13].
- Jaundice
  Patients with pancreatic cancer can present with painless jaundice usually from common bile duct obstruction from pancreatic head tumors. Jaundice that occurs later in disease progression may be from metastatic disease in the liver [14]. Patients presenting with jaundice and fever should be assessed in urgent care.
- Dark urine [9]
- Acholic Stool [12]
- Weight loss (Unintentional ≥5% TBW over 6-12 months) [9]
- Anorexia [9]
- Nausea/ vomiting [12]
- Diarrhea [12]
- Profound fatigue [9]
- Thrombophlebitis [12]
- New onset of diabetes mellitus particularly insulin dependent diabetes mellitus [12]
- Depression [17]

### Additional physical exam features [16,17]

Signs of metastatic disease can already be present at the appearance of the first symptom(s) of pancreatic cancer. Metastatic disease is most commonly found in the liver, peritoneum, lungs, and less frequently, bone. Signs of metastatic disease include:

- Abdominal mass
- Skin excoriations from pruritis
- Icterus
- Ascites
- Left supraclavicular lymphadenopathy (Virchow's node).

- Palpable periumbilical mass (Sister Mary Joseph's node) or a palpable rectal shelf are present in some patients with widespread disease.
- Recurring superficial thrombophlebitis

### About Incidental Findings

Although uncommon, solid pancreatic masses identified on imaging are frequently malignant, most often representing ductal adenocarcinomas or neuroendocrine tumors. Unlike small cystic lesions found incidentally, solid masses tend to be more aggressive and are more likely to be malignant [15].

### About Pancreatic Cysts

There are several types of pancreatic cysts with varying degrees of risk for malignancy, ranging from no risk to high risk to known malignant cyst. Given this variability, pancreatic cysts often require follow up and specialty care referrals. Patients with symptomatic cysts or those containing a solid component should be assessed through the Provincial Pancreaticobiliary Mass pathway.

Cysts need to be considered for size and other characteristics:

- **Size**
  - ≤5mm – follow up determined by type of DI that first characterized the pancreatic cyst
    - If found on Ultrasound or CT: MRCP is recommended within a year
    - If found on MRI and are simple, they do not require follow up
    - **Patients > 75 years of age with simple pancreatic cysts do not require any follow up regardless of size**
  - 6-24 mm - require MRI pancreas with MRCP minimum every 2 years
  - ≥25 mm - patients should be referred to HPB surgery or GI for evaluation
- **Presence of a solid component**
  - Requires referral to HPB surgery or GI
- **Presence of pancreatic ductal dilatation**
  - Requires referral to HPB surgery or GI

### About Cholangiocarcinoma

Bile duct cancers (or cholangiocarcinoma), traditionally categorized based on location (gallbladder, extrahepatic ducts, ampulla of Vater, or intrahepatic ducts), are now more commonly referred to as intrahepatic, perihilar, and extrahepatic bile duct cancers [18-20]. Intrahepatic cholangiocarcinoma, making up 5-10% of these cancers, arise from small or large intrahepatic ducts. Perihilar cancers, the most common (60-70%), are further classified by Bismuth-Corlette type, with Klatskin tumours (involving the hepatic duct bifurcation) being a subgroup. The remainder of the bile duct cancers occur in the extrahepatic bile duct.

The presentation of bile duct cancer is similar to pancreatic cancer, and the workup is the same until further defined by specialty care.

## Alarm Symptoms

Patients can present quite unwell from the first symptoms of pancreatic dysfunction especially if a mass is present. This is often due to the tumour's effects on digestion, bile flow, and overall body function. Obstructions in the digestive tract or bile ducts can result in nausea, vomiting, abdominal pain, poor appetite, and dehydration.

A patient requires **urgent acute care assessment** if they present with:

- **Jaundice with fever:** Indicating there may be cholangitis, tumour-related fever, systemic inflammation, or bacterial infection
- **Intractable nausea/vomiting**: Suggesting gastrointestinal obstruction
- **Acute severe abdominal pain unresponsive to analgesia**: May indicate obstruction
- **Appears acutely unwell**: Symptoms cannot be managed outside an urgent care or hospital setting

### Supportive Care

Click the links below to learn more about supportive care:

- **Integrating an Early Palliative Approach into Advanced Cancer Care**
- **Onecarepath.albertahealthservices.ca**

- Local Tips for Providers:
  - **Calgary Zone**
  - **Edmonton Zone**
  - **Red Deer / Central Zone**
  - **South Zone**

## Advice Options

**If a patient needs to be directed to hospital through RAAPID or the ER. Call RAAPID for on-call Gastroenterologist, Hepatobiliary Surgery, Palliative Care or 911.**

| Zone | Program | Online Request | Phone Number |
|---|---|---|---|
| **Urgent Telephone** | | | |
| All Zones | RAAPID | N/A | **North:** 1-800-282-9911 or 780-735-0811 **South:** 1-800-661-1700 or 403-944-4486 |
| **Non-Urgent Electronic** | | | |
| All Zones | Netcare eReferral | | N/A |
| **Non-Urgent Telephone** | | | |
| Calgary | Specialist Link | Online Request | 403-910-2551 |
| Edmonton, North | ConnectMD | Online Request | 1-844-633-2263 |

## Referral Process

Follow the links below to access Gastroenterology or General Surgery including Hepatobiliary Surgery as described. There are variations in each zone therefore it is important to consider the patient's condition and local resources.

**Gastroenterology**

- Calgary Zone Gastroenterology Referral Quick Reference
- Edmonton Zone Adult Gastroenterology Referral Pathway

**Surgery**

- Provincial Adult General Surgery Referral Pathway

## PROVIDER RESOURCES

| | |
|---|---|
| A112 The Edmonton Pancreaticobiliary Inflammation And Cancer (Epic) Program – A New Multidisciplinary Coordination Of Care Initiative \| Journal of the Canadian Association of Gastroenterology \| Oxford Academic | Cholangiocarcinoma and Gallbladder Cancer (Biliary)- GURU Guideline |
| | Malignant Biliary Obstruction- GURU Guideline |
| Virtual Home Hospital - South Health Campus \| Alberta Health Services | Follow-Up Model of Care for Cancer Survivors |
| Pancreatic Cancer Resources | Metastatic Cancer of Unknown Primary: Workup |

**Nutrition Services:**

To refer your patient to a Registered Dietitian:

• Visit Alberta Referral Directory and search for nutrition counselling.

• To learn more about programs and services offered in your zone, visit Nutrition Services | Alberta Health Services

• Health Link has Registered Dietitians available to answer nutrition questions. If a patient has a nutrition question, they can complete a self-referral at Health Link | Alberta Health Services or call 811 and ask to talk to a dietitian

## PATIENT RESOURCES

This section is intended to list resources that primary care providers may find useful to share with patients to help support self-management and care in the medical home.

- Pancreatic Cancer Resources | Alberta Health Services (www.ahs.ca/assets/info/cca/if-cca-pancreatic-resource-sheet.pdf)

| | |
|---|---|
| Nutrition Handouts | www.ahs.ca/NutritionResources |
| Nutrition Workshops & Classes | www.ahs.ca/NutritionWorkshops |
| Ask a Dietitian a Nutrition Question | Complete a self-referral at www.ahs.ca/811 or call 811 and ask to talk to a dietitian |

## BACKGROUND

### About this pathway

- This pathway was developed in collaboration with Cancer Care Alberta
- Condition-specific clinical pathways are intended to offer evidence-based guidance to support primary care providers in caring for patients with a range of clinical conditions.

### Authors and conflict of interest declaration

- Names of the content creators and their conflict-of-interest declarations are available on request by emailing AlbertaPathways@primarycarealberta.ca.

### Pathway review process, timelines

Primary care pathways undergo scheduled review every two to three years, or earlier if there is a clinically significant change in knowledge or practice. The next scheduled review is November 2028. However, we welcome feedback at any time. Please email comments to AlbertaPathways@primarycarealberta.ca.



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