#PCUKStudyDay

Pancreatic CANCER UK

Diabetes and pancreatic cancer

14th January 2026
9:30 – 12:00pm
Via Zoom Webinar

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Agenda

09.30– 09.35	**Welcome** – Jeni Jones, Pancreatic Cancer Specialist Nurse, Pancreatic Cancer UK
09.35 – 09.45	**Lived experience video**
09.45 – 10.00	**Introduction to diabetes and pancreatic cancer** • Laura McGeeney, Diabetes Specialist Dietitian, Cambridge University Hospitals NHS Trust • Anna Burton, Senior Specialist Pancreatic Dietitian, Leeds Teaching Hospital • Vicki Alabraba, Clinical Education and Training Specialist, Insulet International Ltd
10.00 - 10.55	**Case-based discussion and Q&A**
10.55 – 11.05	**Break**
11.05 – 11.50	**Continued case-based discussion and Q&A**
11.50 – 12.00	**Summary and close**

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Introduction to diabetes and pancreatic cancer

Laura McGeeney, Anna Burton & Vicki Alabraba

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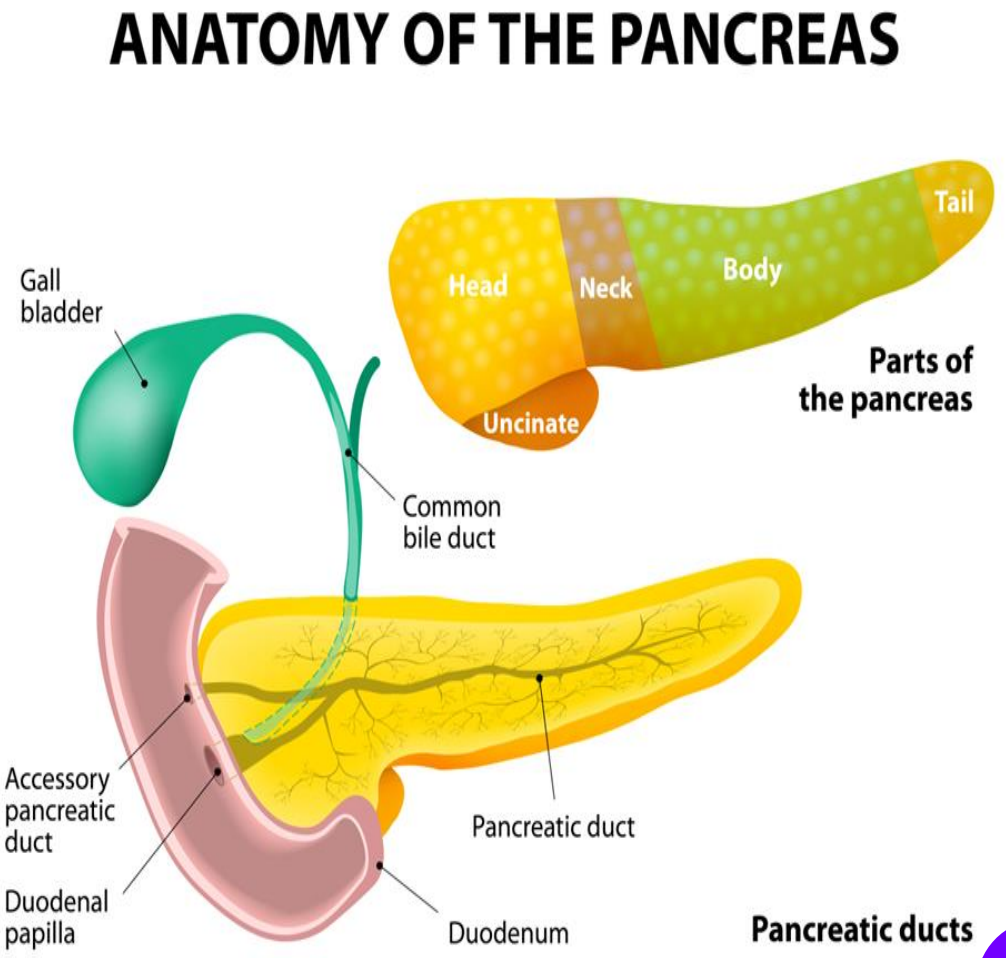
Pancreatic physiology

- **Exocrine:** production of digestive enzymes (lipase, amylase, proteases) and sodium bicarbonate

- **Endocrine:** production of hormones

Islets of Langerhans 1-2% of pancreas



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PEI – Pancreatic exocrine insufficiency

When the pancreas produces or delivers insufficient pancreatic enzymes into the gut for adequate digestion

- Lipase – digests fat
- Protease – digests protein
- Amylase – digests starch

Symptoms

- Oily, pale, orange or yellow stools
- Stools that float/ are difficult to flush
- Undigested food in the stools
- Loose stools
- Offensive smelling stools
- Wind, bloating, abdo pain or cramps
- Nausea, reflux symptoms
- Weight not inline with intake
- Vitamin deficiencies
- Hypos

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PERT

Pancreatic enzyme replacement therapy/ Pancreatin

Creon Micro, Creon 10,000, **Creon 25,000**, **Nutrizym 22**, **Pancrex V powder**, Pancrex granules, Pancrex V Capsules, Pancrex V capsules 125mg, Pancrex V tablets

Enteric-coated minimicrospheres / microtablets

- All pork based
- With all meals, snacks and milky drinks
- Can’t overdose
- Dosing individual

Aim for adequate digestion and resolution of symptoms

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Endocrine cells and glucose homeostasis

- **Alpha cells – glucagon** is secreted in response to **falling** blood glucose levels and stimulates the breakdown of glycogen (glycogenolysis) primarily within the liver to glucose.
- **Beta cells – insulin** (anabolic hormone) is secreted in response to **rising** blood glucose levels, enabling glucose uptake within the liver, muscle and adipose cells – converted to glycogen (glycogenesis).
- **Delta – somatostatin suppresses the production of insulin and glucagon.** Insulin inhibits somatostatin when blood glucose levels are low, and glucagon inhibits somatostatin when blood glucose levels are high.
- **Epsilon – Ghrelin** (hunger hormone) is produced by the stomach. Small amounts secreted by the pancreas act on beta cells to **inhibit insulin**, and act on alpha cells to **secrete glucagon**.
- **PP cells (F cells) producing pancreatic polypeptide**. Acts on the liver to **increase insulin sensitivity** and therefore suppresses the breakdown of glycogen to glucose.

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Diabetes – High blood glucose levels

- Glucose is the body's main energy source (brain).
- Glucose comes from food (**carbohydrates**) or the body's glucose storage (**glycogen**).
- Digestion of carbohydrates in food, enters the bloodstream as glucose (the simplest form of sugar).
- **Insulin** action moves glucose from the blood into cells for energy and storage.
- Interruption to this process due to **insulin resistance** or **deficiency of insulin** leads to glucose remaining in the blood.

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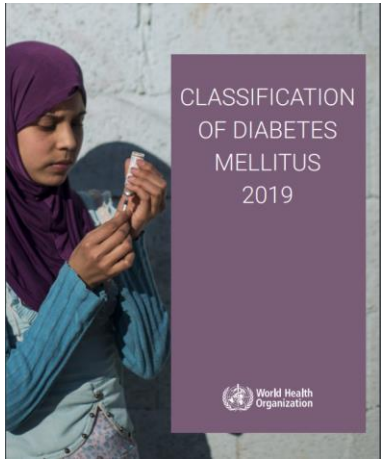
WHO classification of diabetes - 2019



Diseases of the exocrine pancreas

- Any process that diffusely damages the pancreas: pancreatitis, trauma, infection, pancreatectomy.
- Diabetes related to pancreatic adenocarcinoma is caused by other mechanisms then reduction of beta cell mass.

Table 2: Types of diabetes

Type 1 diabetes
Type 2 diabetes
Hybrid forms of diabetes
Slowly evolving immune-mediated diabetes of adults
Ketosis prone type 2 diabetes
Other specific types (see Tables)
Monogenic diabetes
- Monogenic defects of β-cell function
- Monogenic defects in insulin action
Diseases of the exocrine pancreas
Endocrine disorders
Drug- or chemical-induced
Infections
Uncommon specific forms of immune-mediated diabetes
Other genetic syndromes sometimes associated with diabetes
Unclassified diabetes
This category should be used temporarily when there is not a clear diagnostic category especially close to the time of diagnosis of diabetes
Hyperglyacemia first detected during pregnancy
Diabetes mellitus in pregnancy
Gestational diabetes mellitus

Diseases of the exocrine pancreas

- Fibrocalculous pancreatopathy
- Pancreatitis
- Trauma/pancreatectomy
- Neoplasia
- Cystic fibrosis
- Haemochromatosis
- Others

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Type 1 diabetes

- **8% of all diabetes** (Diabetes UK)
- **Autoimmune disease** – beta cells in the islet of Langerhans are destroyed – insulin deficiency
- **Cause** – genetic, environmental (virus) – research ongoing
- **Positive for islet autoantibodies:**
    - GAD (Glutamic Acid Decarboxylase).
    - IA-2 (Islet Tyrosine Phosphatase)
    - ZnT8 (Zinc transporter 8)
- **Treatment –** insulin
- Hypoglycaemia

Type 2 Diabetes

- **90% of all diabetes** (Diabetes UK)
- **Insulin Resistance (IR)**
    - Visceral adipose tissue produces **inflammatory** cytokines (TNF and interleukin (IL)-6).
    - Cytokines inhibit insulin receptors and the action of insulin.
    - Leading to **Insulin resistance**.
    - Hyperglycaemia and Insulin resistance leads to hyperinsulinaemia.
    - Leading to beta cell exhaustion
- **Risk factors**: Overweight/obese, family history, inactivity, ethnicity, history of gestational diabetes, PCOS, metabolic syndrome.
- Negative for autoantibodies.
- Treatment: lifestyle – diet: healthy eating, exercise, weight loss, oral hypoglycaemic agents – first-line Metformin, may progress to insulin.
- **Obesity is a risk factor for pancreatic cancer.**

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Type 3c diabetes

- **1.8 - 9.2% of all diabetes** (Woodmansy and Ewald)
- **Tumour metabolites:** Paraneoplastic mechanism due to tumour metabolites causing **insulin resistance and beta cell dysfunction.**
- **Pancreatic resection** for the treatment of pancreatic cancer: **loss of pancreatic tissue.**
- **Treatments:** Chemo/radiotherapy/steroids

- Negative for autoantibodies.
- Treatment – Some oral hypoglycaemic agents, insulin.
- Nutritional support
    - Weight gain if appropriate
    - **Pancreatic enzyme replacement therapy (PERT)**

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Pathophysiology

- **Absence of islets** – total pancreatectomy (absolute deficiency of insulin, glucagon and pancreatic polypeptide)
- **Partial absence of functional islets** – chronic pancreatitis, partial pancreatectomy, severe acute pancreatitis
- **Paraneoplastic** – pancreatic ductal adenocarcinoma

Mechanisms observed within type 3c diabetes

- Hyperglycemia due to **Insulin deficiency**
- Hypoglycaemic risk due to lack of **glucagon** in response to falling blood glucose in response to falling blood glucose levels
- **‘brittle diabetes’**
- Hyperglycaemia due to **Hepatic insulin resistance** caused by a reduction in **pancreatic polypeptide** and unsuppressed hepatic glucose production
- **Relationship between endocrine and exocrine function:**
- **Reduced incretin effect**
- Food in the small intestine initiates an incretin hormone response GIP (glucose-dependent insulinotropic polypeptide and GLP-1 (glucagon-like peptide-1) these signal to the beta cells to release insulin. In the setting of maldigestion due to PEI a dampened incretin response occurs – leading to hyperglycaemia.

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Pancreatic cancer: the facts

Deadliest cancer
- 5th biggest cancer killer in the UK
- One in four people dying within a month
- Less than 7% survive past five years

Late diagnosis
- It presents with vague and non-specific symptoms
- 80% diagnosed at stage 3 and stage 4
- Over half of pancreatic cancer patients are diagnosed in A and E

Limited treatment options
- 7 in 10 people with pancreatic cancer do not receive any active treatment (e.g. chemo or surgery)
- Surgery is high risk - up to 3% mortality and up to 30% morbidity
- High rates of recurrence
- Complex and severe symptoms – people too sick to receive treatment

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Pancreatic cancer

Types
- Exocrine tumours make up the majority, the most common type is pancreatic ductal adenocarcinoma (PDAC)
- Neuroendocrine tumours are rarer and start in the neuroendocrine cells

Treatment options
- Surgery is the only potentially curative option (1 in 10 receive)
- Chemotherapy and/or radiotherapy can be offered to support surgery (neo/adjuvant) or as palliative treatments
- 7 in 10 receive no active treatment

Impact on pancreatic functions
- Reduced digestive enzyme production → impaired digestion, malnutrition
- Impaired hormone production → impaired blood glucose management/ diabetes

Symptom management needs
- Pancreatic enzyme replacement therapy (PERT)
- Pain management
- Nutritional support
- Nausea & vomiting
- Fatigue
- Blood glucose monitoring
- Psychological and emotional support

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Case study 1

Laura McGeeney, Anna Burton & Vicki Alabraba

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Case Study 1

Jane, 63, was diagnosed with type 2 diabetes 18 months ago.

Since her diagnosis, Jane's diabetes has been managed in the community.

Jane's HbA1c has been well managed on metformin and an SGLT-2i for the past year.

Current issues:

- Her last HbA1c 6 months ago was **49 mmol/mol**, recently it has risen to **80 mmol/mol**
- Her weight has dropped from **68kg** to **61kg** over the past 4-5 months, dropping her BMI from **26.9kg/m^2** to **24.1kg/m^2**
- She is experiencing polydipsia, polyuria and extreme tiredness

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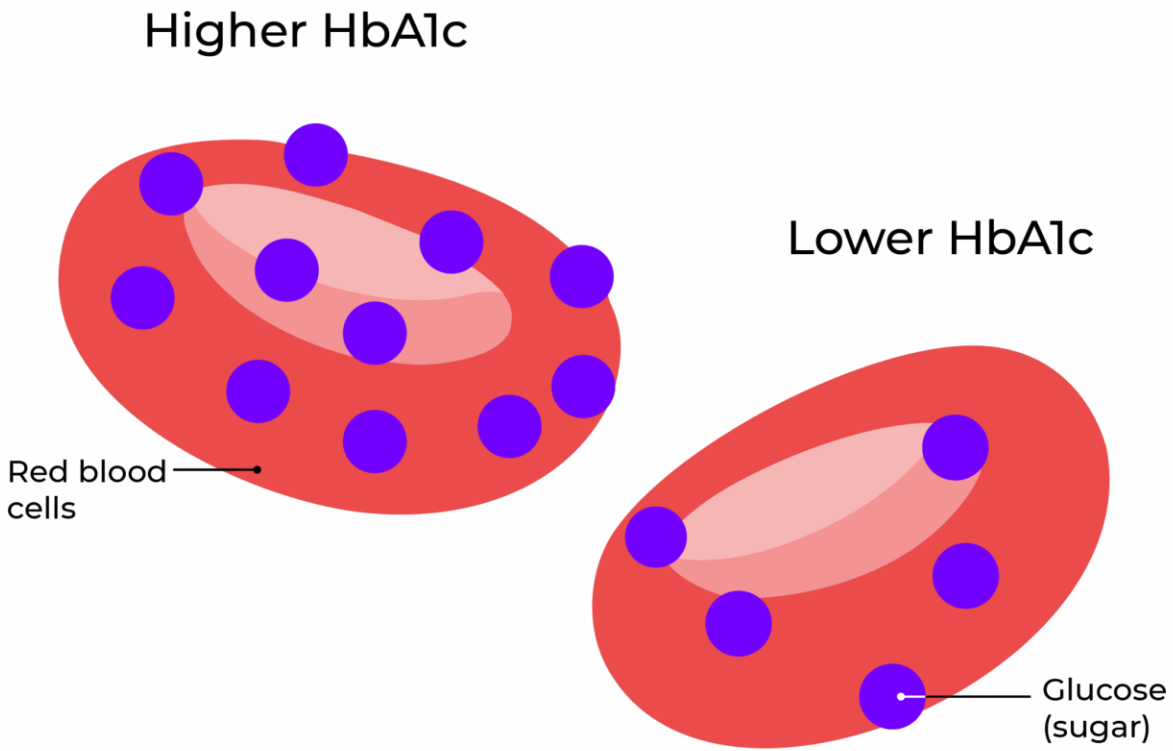
Case study 1

HbA1c



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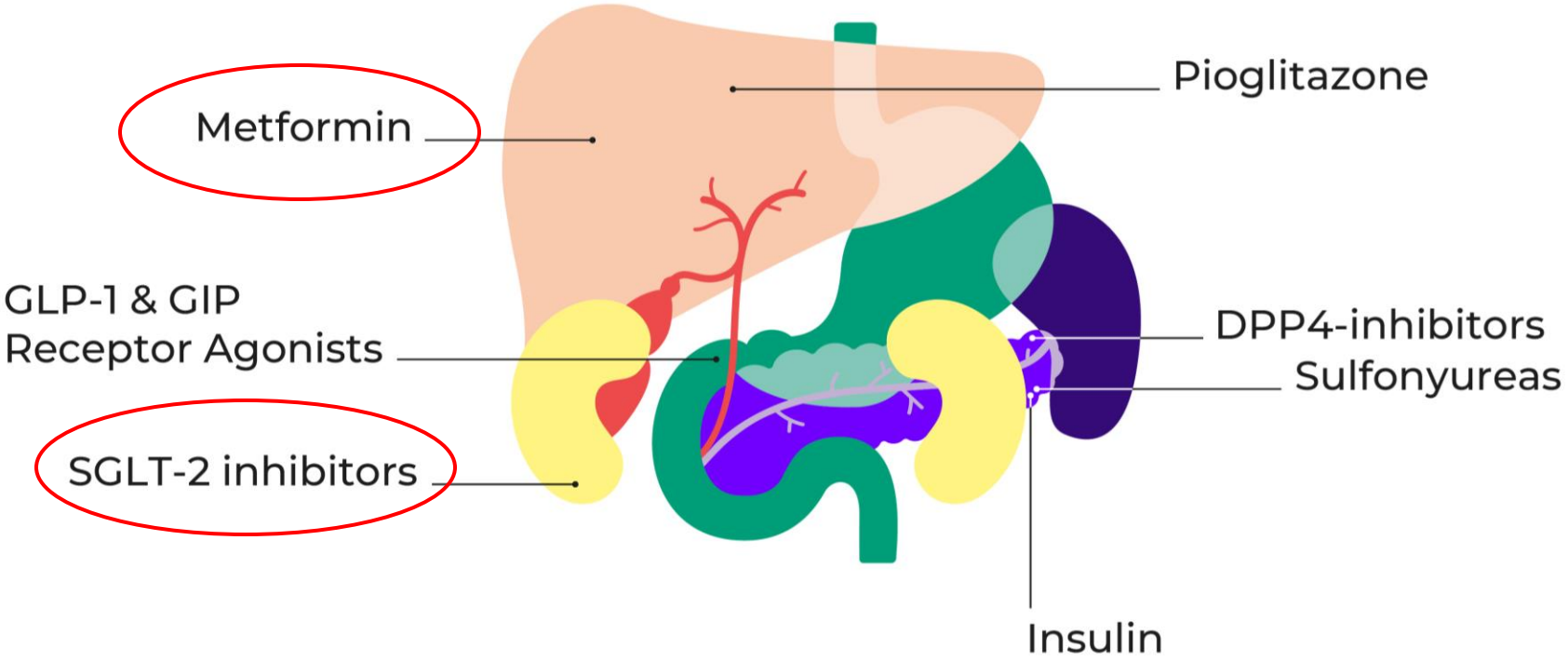
Treatments



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Case study 1

What other questions would you ask Jane?

Share your thoughts in the chat.

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Case study 1

What other questions would you ask Jane?

- What is she eating and drinking?
- Unintentional weight loss?
- Change in appetite?
- Change in activity levels?
- Change in bowel symptoms?
- Abdominal or any other symptoms?
- Family history?
- Is she taking her diabetes medications as prescribed?

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Jane's answers

- Eating and drinking normally for her, 3 meals per day plus some snacks
- No intentional weight loss – but was glad she was losing weight as this was recommended as part of her type 2 diabetes education she received a year ago
- Has been a bit less active than usual as more tired
- Some wind and bloating on questioning
- Bowels opening regularly, stools softer than usual
- No family history of diabetes
- Taking her diabetes medication as prescribed

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Case Study 1

HbA1c increase

The practice nurse was surprised by the rapid increase in her HbA1c.
She decided to discuss this with her GP.

Jane's GP arranged to see her face-to-face.
Took detailed history and physical examination.
Unintentional weight loss and HbA1c increase raised concerns for a malignancy.

For urgent CT abdomen.

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Case study 1

HbA1c increase

The diabetes team recommended to initiate basal insulin given her osmotic symptoms and weight loss. The SLGT2i was stopped.

They recommended also checking her pancreatic auto-antibodies and Urine C peptide to rule out type 1 diabetes.

Key information

- Pancreatic auto-antibodies negative (GAD, IA2, ZnT8)
- Urine C peptide (UCPCR) 0.2 mmol/mmol

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Case study 1

NICE (2015) guidance recommends:

Anyone over the age of 60 presenting with **new-onset diabetes** should be assessed for pancreatic cancer in the presence of any of the following:

- Weight loss
- Diarrhoea
- Back pain
- Abdominal pain
- Nausea,
- Vomiting,
- Constipation

Urgent 2-week wait CT scan.

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Fasting for procedures

- Useful to make a plan in advance of the fasting period
- People with diabetes, treated with insulin may need to be on VRIII while fasting or adjustment to diabetes treatment
- PET scans – aim for BG 4-11, may need correction dose of rapid acting insulin prior to scan

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Pancreatic cancer symptoms

- Pain
- Indigestion
- Tummy and/or back pain
- Changes to bowel habits (inc. constipation/diarrhoea)
- PEI (pancreatic exocrine insufficiency) inc. greasy/oily stools
- Unexplained weight loss or lack of appetite
- Bloating
- Jaundice
- Fatigue
- Nausea/vomiting

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Case study 1

Investigations

Jane was offered an urgent CT scan which showed a mass in the body of her pancreas and some liver lesions.

This was investigated with a biopsy of one of the liver lesions.

Key information

- The liver biopsy unfortunately showed pancreatic adenocarcinoma (PDAC)
- Pancreatic adenocarcinoma spread beyond the pancreas is not curable

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What would you do next?

Share your thoughts in the chat.

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Case study 1

What would you do next?

- **Consider PERT** and assess for PEI (vrs head of pancreas – everyone should be offered PERT as close to diagnosis as possible (NICE))

- **Consider if mass causing extrinsic compression on stomach** – feeling full quickly, loss of appetite – nutritional support strategies – including oral supplements (ONS).
  Note - juice style ONS and impact on BG.

- **Assess for other symptoms** impacting QOL and appetite, pain, nausea, vomiting, oral candida, and constipation.

- **Liaise** with GP, local pancreatic service MDT, CNS

- Important Jane knows she has **T3cDM**, advice for T2 that is readily available is largely not appropriate for her now

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Met with oncologist

Discussed biopsy result and treatment options.
She was fatigued and distressed at the diagnosis but relatively fit and **offered chemotherapy**.

Also met a dietitian who assessed her nutritional intake and started her on **PERT and nutrition support strategies**.

Key information

- Treatment options with metastatic pancreatic cancer include chemotherapy and radiotherapy for some patients, as well as symptom management
- Chemotherapy is an independent risk factor for hyperglycaemia
- Fitness for treatment supports tolerance of it and therefore efficacy of it

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Case study 1

Treating PEI with PERT

- Do not chew / crush
- Take at the start of or during eating or having milky drinks
- Take enzymes with a cool drink (not hot)
- If taking vitamins, take with enzymes
- If swallowing is difficult: open capsule and take on one spoon of soft, acidic food e.g. jam, ketchup, fruit puree or yogurt and follow with liquid
- Self medicating on the ward is generally encouraged

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What challenges might there be managing diabetes for Jane?

Share your thoughts in the chat.

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Case study 1

Chemotherapy side effects

- Some chemotherapy drugs are mixed in a glucose solution
- Nausea, vomiting, diarrhoea, constipation
- Fatigue
- Oral candida infection
- Taste changes
- Loss of appetite

Travelling for chemo
Family and friends support
Hyperglycaemia can contribute to weight loss and adds to fatigue

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Case study 1

Steroids

Jane had nausea and was given steroids as part of her chemotherapy treatment

She was referred to DSNs to help support her with this.

Key information

- It is helpful to let someone's diabetes team know they will be having steroids in advance

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Case study 1

Steroids

- Steroids can increase BGs of people with and without diabetes
- This is called **steroid induced hyperglycaemia**
- These would usually be managed by the patient's usual diabetes care provider as an outpatient, and the hospital diabetes care provider as an inpatient
- Usually need more medication to treat this
- Adjustments to insulin doses are often required
  Need to be reviewed as steroids reducing or stopped.
  Generally the higher the dose of steroids, the greater effect on BGs

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Case study 1

Reduced appetite

Jane's appetite reduced for 2-3 days following chemotherapy. She was also more tired and so less active.
Changes to intake and activity levels made diabetes management more challenging.

Key information

- Jane is now on a **basal bolus** insulin regimen.
  Long-acting (basal) insulin injected once per day and rapid acting insulin with her meals and/or nutritional supplements
- Maintain close contact with diabetes team
- Close monitoring of glucose

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Reduced appetite

Symptoms and treatment of pancreatic cancer can cause reduced appetite. Having a decreased appetite usually meaning **eating, and sometimes drinking less, often choosing different foods**.

Impacts on BGs.
May be useful to aim for a **slightly higher BG target** to avoid hypos.

Pancreatic cancer can lead to weight loss. If there is **insulin resistance**, this may reduce with weight loss.

Nutrition support advice that suggests adding rapid acting carbohydrate can make managing BGs challenging.

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Nutrition support

- High protein and energy
- Do not reduce intake to get BG within target
  - Reasonable to avoid large volumes of sugary drinks/ sweets
- High BGs leads to energy loss as sugar in the urine
- Adequate PERT doses
- Carbohydrate awareness
- Physical activity
- Monitoring

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Case study 1

Oral nutrition support tips

- Little and often
- Milky drinks
- Drink after meals not before
- Taste changes
- Good protein source with each meal
- Milk based puddings
- Fortify milk
- Oral nutritional supplements
  - Standard
  - Juice style
  - Fat based

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Case study 1

Eating well with PC and DM

- Adequate PERT
- Good source of protein
- Avoid large quantities of high sugar/ GI foods or fluids between meals
- Carbohydrate awareness
- Physical activity
- Micronutrients
- May need to increase freq of BG monitoring
- Regular nutritional assessment and monitoring is important

JBDS-IP Joint British Diabetes Societies for inpatient care

UKONS · The Royal College of Pathologists · Clinical Oncology · The Royal College of Radiologists · bopa · acp · Royal College of Physicians

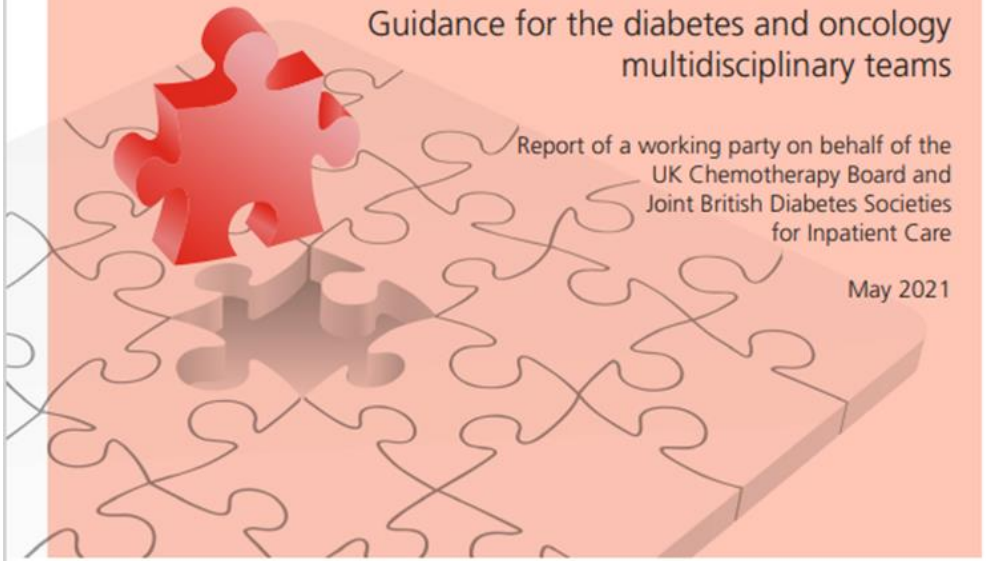
UK CHEMOTHERAPY BOARD

The Management of Glycaemic Control in Patients with Cancer

Guidance for the diabetes and oncology multidisciplinary teams

Report of a working party on behalf of the UK Chemotherapy Board and Joint British Diabetes Societies for Inpatient Care

May 2021



ABCD · DIABETES UK KNOW DIABETES. FIGHT DIABETES. · DISN UK GROUP · UKCPA CLINICAL PHARMACY ASSOCIATION

JBDS-IP Joint British Diabetes Societies for inpatient care

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Case study 1

End of treatment

Jane needed two breaks in her chemotherapy treatment due to side effects, but she did complete it.

She was then discharged from hospital care to the community.

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Case study 1

What are the clinical priorities now for Jane?

Share your thoughts in the chat.

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Case study 1

What are the clinical priorities now for Jane?

- QoL, enabling her to do the things she wants to do
- Optimise BG management:
- Minimise risk of hypo/hyperglycaemia.
- Minimise weight and muscle loss: activity and QoL
- Optimise recovery from chemotherapy (physical and MH)..
- Manage side effects and symptoms (taste changes, lethargy, bowel habits).
- Optimise the nutritional support plan.
- Optimise PERT.

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Case study 1

Key takeaway message

1. A significant increase in HbA1c is a potential pancreatic cancer symptom.
2. Weight loss and diabetes – an urgent 2-week wait CT scan.
3. Abdominal symptoms: consider and assess for in people with diabetes.
4. The impact that diabetes, pancreatic cancer and chemotherapy have on nutritional status
5. Importance of regular monitoring
6. Check if type of diabetes needs to be reclassified
7. Importance of communication between teams through treatment

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Case study 2

Laura McGeeney, Anna Burton & Vicki Alabraba

Case Study 2

Tomasz, (72), presents at his GP surgery with **jaundice**. He is referred for further investigation and following a CT scan and EUS with FNA (biopsy) is diagnosed with PDAC.

His case is presented at the **regional MDT meeting** and it is decided he is to be offered a **pancreatic resection**.

He is invited to a clinic with the surgeon the following week.

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Case study 2

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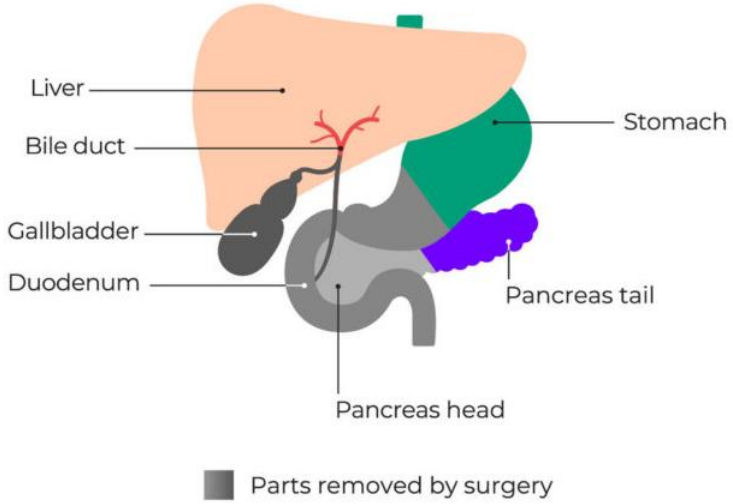
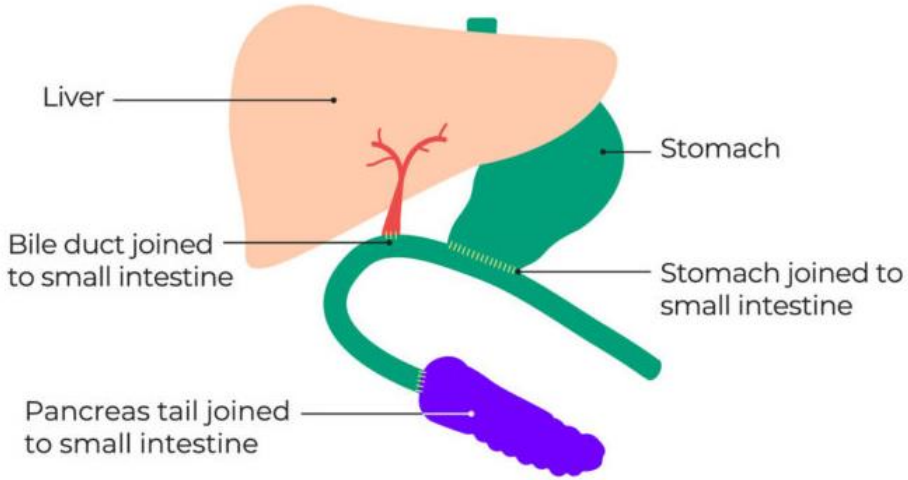
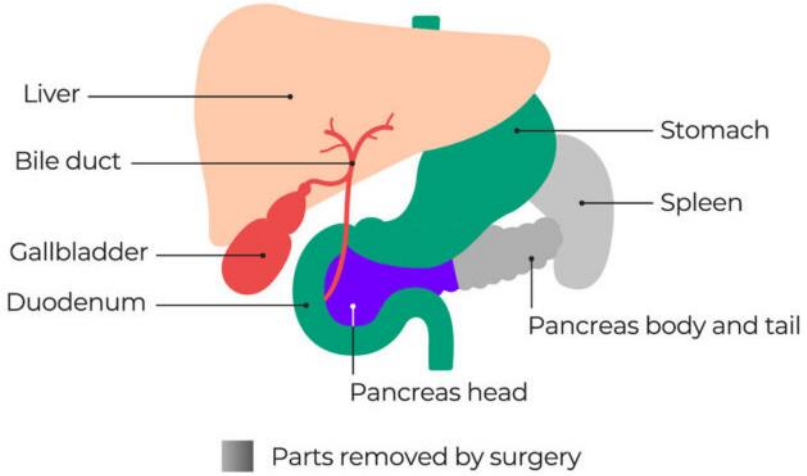
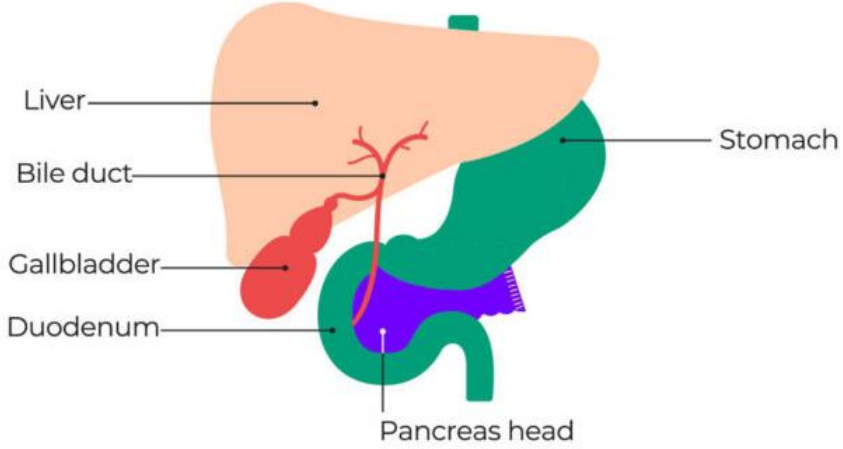
Whipple's





Distal pancreatectomy





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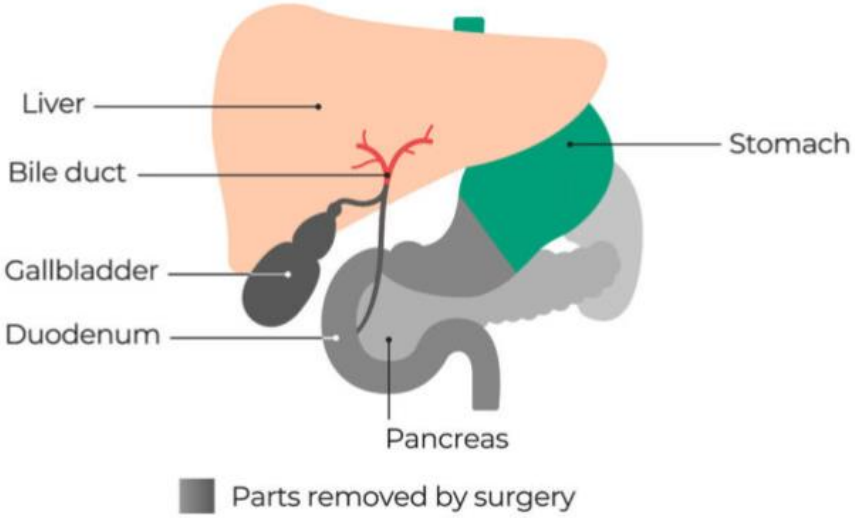
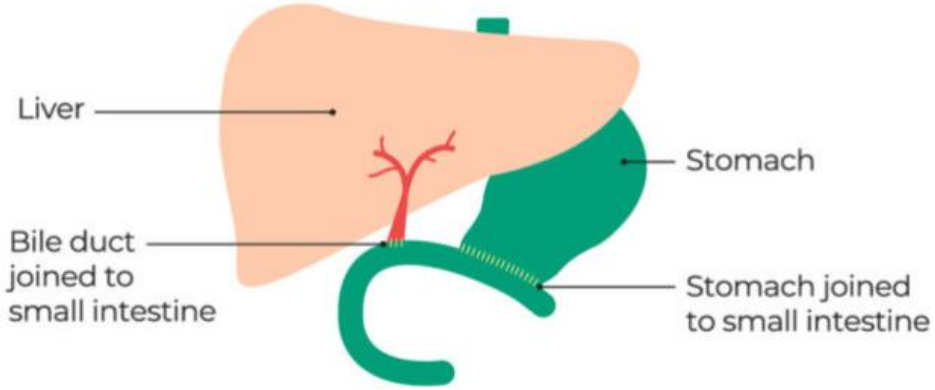
Case study 2

Total pancreatectomy





- Surgery is the only potentially curative option for pancreatic cancer
- 1 in 10 receive surgery

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Case study 2

Surgical clinic

- Tomasz meets the surgeon and HPB specialist nurse, they explain the diagnosis, operation and potential side effects. **He is offered a Whipple's resection.**

- Tomasz has an opportunity to ask questions and make sure he understands the situation and what is being offered.

- Tomasz meets the dietitian to discuss his nutritional intake and what he can do to optimise his fitness for surgery.

- The advice given includes starting **pancreatic enzyme replacement therapy (PERT)**. The why, how and when of PERT and PEI is explained to him and he leaves the clinic with a prescription for PERT.
  Nutrition support strategies commenced.

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Case study 2

Surgical clinic

Key information

- Tomasz's weight is **80.6kg** and his BMI is **23.8kg/m²**
- His weight has dropped slightly over the past six months from **83-84kg** as his usual weight

- A recent HbA1c showed non-diabetic hyperglycaemia (**43mmol/mol**)

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Case study 2

Dietitian call

Dietitian phones Tomasz a week after the surgical clinic appointment.
He is managing the PERT well and has noticed **his stools are firmer and darker** in colour **and he is opening his bowels less often.**

However, he feels **tired**, **thirsty** and is **passing more urine** than usual.

Some further **weight loss.**

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What do you think should happen next?

Share your thoughts in the chat.

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Case study 2

Dietitian call cont.

His dietitian suggests he goes to his GP for a random BG check by the practice nurse.

His random finger prick BG was **18.2mmol/L**

A fasting glucose the following morning was sent to the lab.
The result came back as **11.6 mmol/L**

A repeat HbA1c was **46mmol/mol**.

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Case study 2

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Does he have diabetes?

Share your thoughts in the chat.

His random finger prick BG was **18.2mmol/L**

A fasting glucose the following morning was sent to the lab.
The result came back as **11.6 mmol/L**

A repeat HbA1c was **46mmol/mol**.

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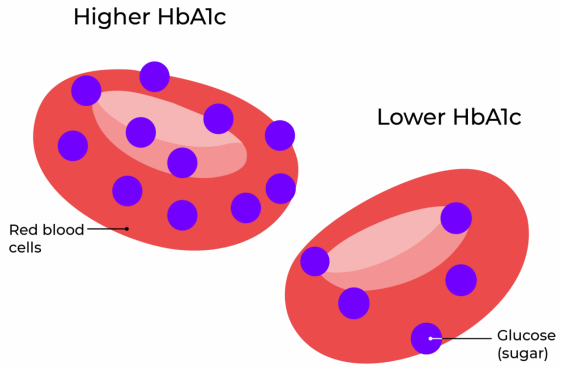
Case study 2

Diagnostic tests



Diagnostic Criteria:

- HbA1c of 48 mmol/mol (6.5%) or more
- Fasting plasma glucose of 7.0 mmol/L or more
- Random plasma glucose of 11.1 mmol/L or more in the presence of symptoms or signs of diabetes

- Fasting plasma glucose (11.6 mmol/L) is diagnostic for diabetes.

- He has osmotic symptoms so a single abnormal HbA1c or fasting glucose can be used

- HbA1c should **NOT** be used to diagnose diabetes in people who:
  - Have had symptoms of diabetes for less than 2 months
  - People with acute pancreatic damage

NICE 2025 Clinical Knowledge Summaries Diagnosis in adults | Diagnosis | Diabetes - type 2 | CKS | NICE

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Case study 2

Unmasking diabetes

- Being commenced on PERT may unmask diabetes or cause glycaemic management to deteriorate.
- This is due to the improved digestion of carbohydrates.
- This highlights the importance of monitoring for diabetes across the treatment pathway.

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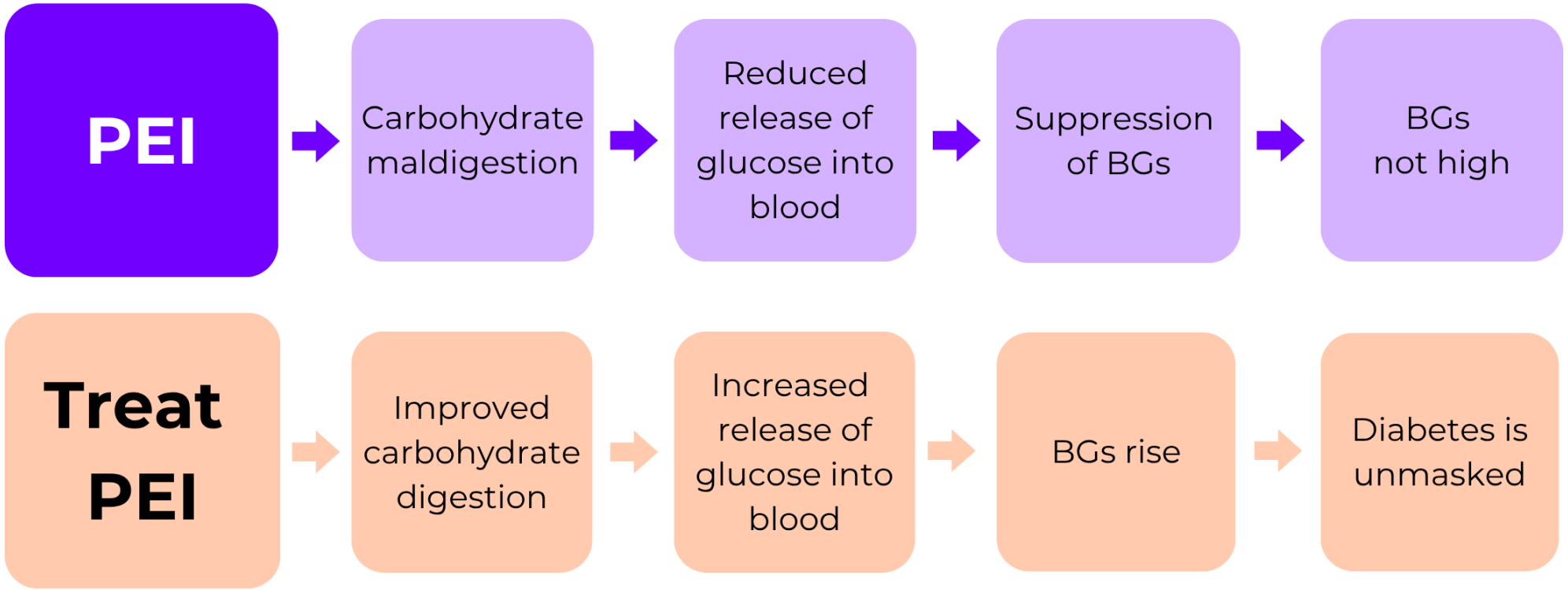
Case study 2

Unmasking diabetes



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Case study 2

Potential contributors to Tomasz's BG rise

- PERT has improved digestion and absorption, releasing more glucose and unmasking diabetes
- He is also eating more as feeling better with PERT and reduced his digestive symptoms (bloating, abdominal discomfort)

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Hyperglycaemia

Acute Symptoms

- Thirst
- Tiredness
- Weight loss
- Nocturia/polyuria
- Blurred vision
- Delayed wound healing
- Infections

Chronic complications

- Retinopathy
- Neuropathy
- Cardiovascular disease
- Cerebrovascular disease
- Nephropathy
- Gum disease

Diabetes is associated with shorter survival in pancreatic cancer patients (Mao et al, 2015).

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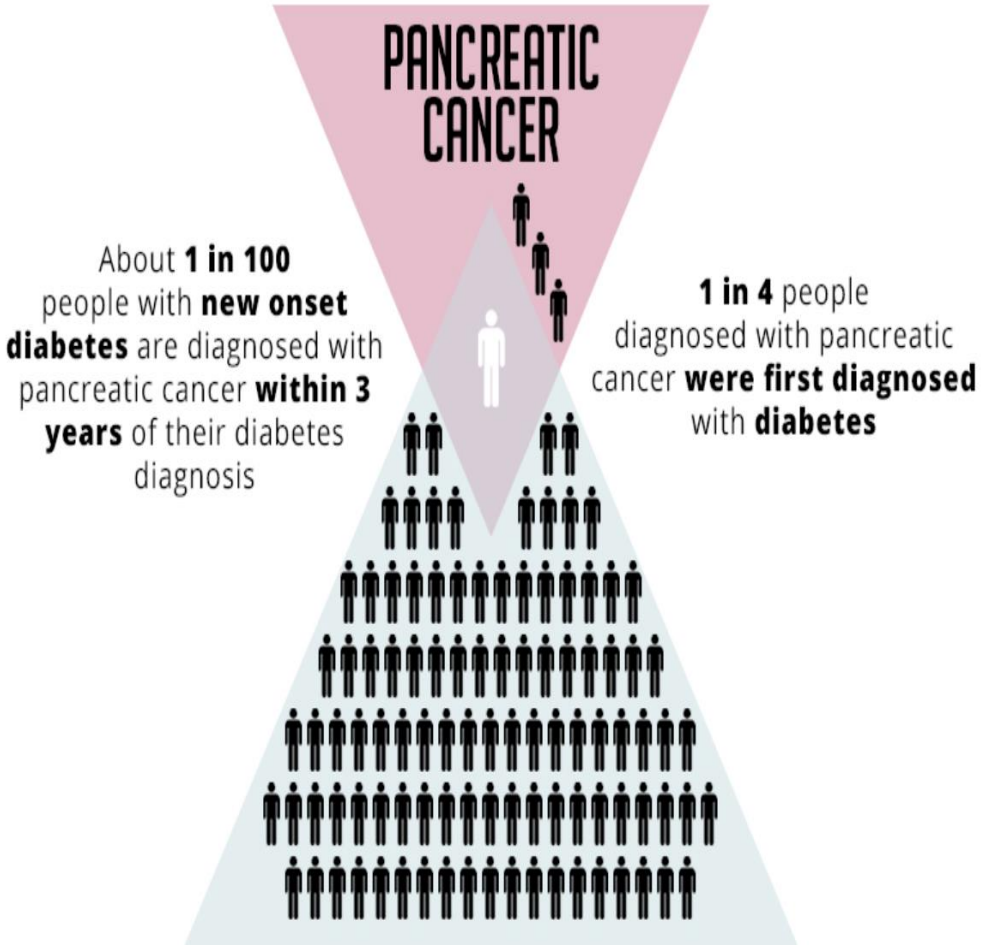
Case study 2

Diabetes caused by pancreatic cancer



National Cancer Institute

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Case study 2

Pancreatic CANCER UK

What would you do?

Share your thoughts in the chat.

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Case study 2

What actually happened?

- His practice nurse starts him on basal insulin and provides information on hypo management.
- Given a blood glucose meter and teaches him how to use it.
- Practice nurse speaks to the diabetes team and gets him an urgent follow up appointment.
- The surgical, dietetic and community teams continue to support Tomasz to optimise his diabetes management before the operation.

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Case study 2

Peri-operative period

- If on insulin, usually admit the day before and start VRIII when fasting
- If on OHA (oral hypoglycaemic agents), usually VRIII when fasting
- May require dose adjustment of basal insulin but can usually be continued alongside VRIII*
- Local policy re use of CGM
- Usually avoid carb-loading pre-op drinks

*Follow local hospital guidelines

Centre for Perioperative Care

Acad
Medi
Colle

Guideline for Perioperative Care for People with Diabetes Mellitus Undergoing Elective and Emergency Surgery

Updated October 2023

JBDS-IP Joint British Diabetes Societies for inpatient care

Glycaemic management during enteral feeding for people with diabetes in hospital

A guideline from the Joint British Diabetes Societies for Inpatient Care (JBDS-IP) group

April 2024

Association of British Clinical Diabetologists

DISN UK GROUP

DIABETES UK KNOW DIABETES. FIGHT DIABETES.

JBDS-IP Joint British Diabetes Societies for inpatient care

Using technology to support diabetes care in hospital:

A guideline from the British Diabetes Societies for Inpatient Care (JBDS-IP) Group and Diabetes Technology Network (DTN)

Revised March 2024

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DTN UK

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Case study 2

Intra-operative period

- Managed by anaesthetist
- Basal insulin at usual time can be administered (dose adjustment may be required) even if on VRIII
- Aim of VRIII is to maintain glucose levels between 6-10 mmol/L although up to 12 mmol/L may be acceptable

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Case study 2

Post-op

- Tomasz's operation goes well. After a night in the recovery unit, he goes to the HPB ward. When he gets to the ward, he can have free fluids. On day 2, he begins a light diet.

- Diabetes has been managed with VRIII (Variable Rate Intravenous Insulin infusion or sliding scale) since he started fasting for the operation. His basal insulin was continued alongside VRIII at a lower dose.

- Once he has had two meals, the inpatient diabetes team offer a plan to switch him back onto his usual basal insulin dose and stop the VRIII.

- His BGs increase to over hospital targets once his intake increases, and he is given PRN rapid acting insulin.

- The diabetes team start him on some regular mealtime insulin in addition to his basal insulin (basal bolus regimen)

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Case study 2

Challenges to post-op BG management

- Variable nutritional intake
- Changeable route of nutrition
- DGE – delayed gastric emptying
- PEI – absorption
- Reduced and variable physical activity levels
- Psychological health
- Post-op infections
- Change of who manages the diabetes

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Case study 2

Post-op

- The ward nurses are giving Tomasz his insulin injections on the ward, when he is able, **he is supported to self-administer** and is **re-educated** on how to do this.

- He is physically able to give the injections but **gets confused between the two insulin pens and feels overwhelmed** with all the new regimen after the operation.

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Case study 2

What would consider in order to make it a safe discharge?

Share your thoughts in the chat

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Case study 2

Post-op

- The diabetes team change him **from a basal bolus insulin regimen** to a **twice daily mixed insulin regimen** with only two injections per day in preparation for self-management on discharge.

- Initial post discharge glucose targets around **6-10 mmol/L.** Trying to avoid hypos but aid wound healing process.

- He is **given a reminder of hypo management**, and he starts checking his own BGs on the ward and he able to do this independently.

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Case study 2

Discharge

- The nurses ask for **initial support from the District Nurses** to assist with insulin injections once he is home.
- His intake continues to increase once he is home and he is back with familiar foods.
- There is **ongoing communication between his diabetes team, GP, DN team and dietitians once he is home.**
- Once Tomasz has recovered more from the operation, he begins to give his own insulin with the DNs' support, until he and they are comfortable with this. He then takes over giving his own insulin.

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Case study 2

Key takeaway message

1. Starting PERT can unmask diabetes
2. Optimising blood glucose levels, weight and physical activity can improve surgical outcomes and reduce complications
3. Monitor nutritional intake post-surgery
4. Monitor blood glucose across the treatment pathway
5. Diabetes assessment and treatment as close to diagnosis as possible
6. Importance of communication between teams through treatment

Q&A