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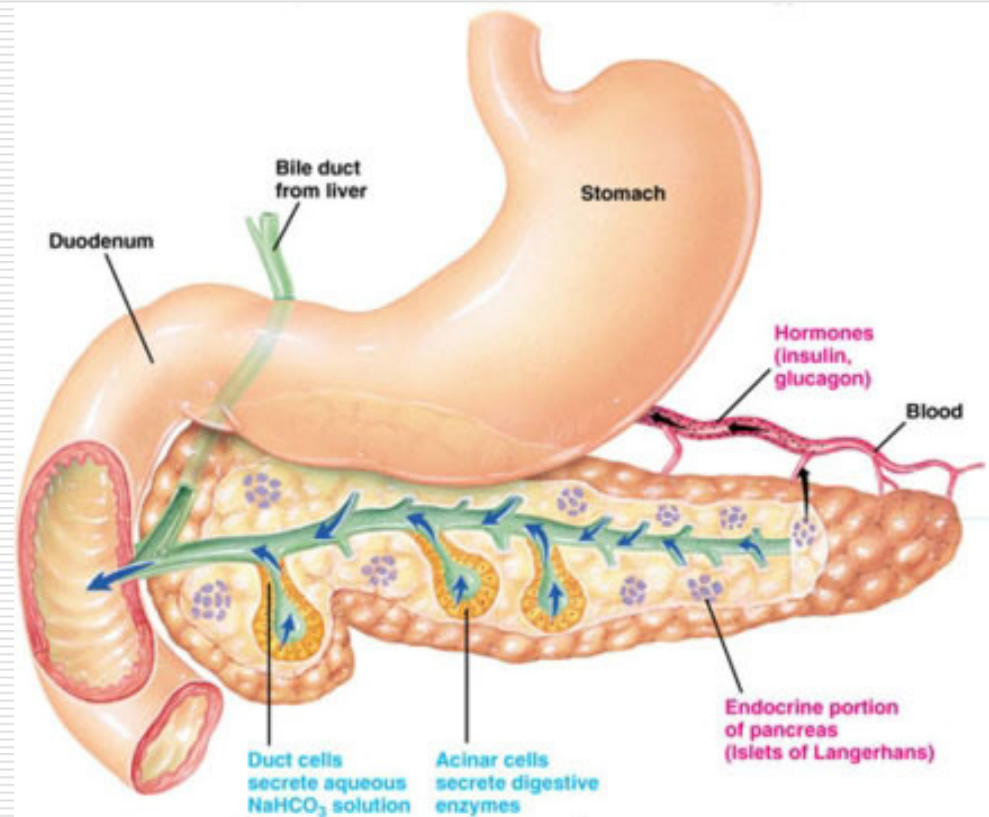
# Chronic Pancreatitis Secondary to Chronic Alcoholism

By Kalyn Eden & Gabrielle Siragusa

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# Background

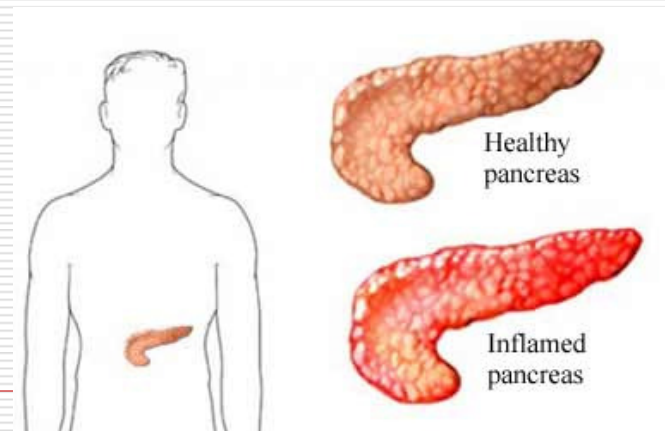
- Pancreas has 2 major functions:
  - Produces digestive enzymes & bicarbonate. (Exocrine)
  - Hormone production/glucose regulation. (Endocrine)



# What is Pancreatitis?

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- ❑ Inflammation of the pancreas causing pancreatic damage/autodigestion.
- ❑ Can be acute or chronic.
- ❑ The most common causes are alcoholism, cholelithiasis, and abdominal trauma.



# Chronic Pancreatitis

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- ❑ Continuous or recurrent inflammation → progressive and irreversible tissue changes → permanent loss of function
- ❑ In Western countries, alcohol consumption is assumed to be the leading cause (70%–90%) of all cases.
- ❑ Alcohol is known to exert a number of toxic effects on acinar cells (active cells in pancreas).
- ❑ It is common for patients with chronic pancreatitis to have repeated episodes of acute pancreatitis.

# Signs & Symptoms

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- Abdominal pain
- Back pain
- Nausea
- Vomiting
- Fever
- Swelling of the abdomen
- Rapid pulse
- High/low blood pressure
- Shock
- Faintness
- Jaundice
- Elevated serum amylase & lipase
- Maldigestion/malabsorption
- Diarrhea
- Thirst
- Appetite
- Urination
- Fatigue
- Weight loss

# Assessment

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- Name: Elena Jordan
  - Age: 30
  - Sex: Female
  - Height: 5'8
  - Current Weight: 112 lbs.
  - UBW: 140 lbs. (1 year ago)
  - %UBW: 80%
  - IBW Range: 126-154 lbs.
  - %IBW: 80% (moderate weight loss)
  - BMI: 17.0
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# Assessment

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## Chief Complaint

- “I’m tired of hurting so much. I’ve had this terrible pain in my stomach for the past 2 days. I took a client out to dinner the other night, but I couldn’t eat much. This has been happening off and on for the past 9 months, but the pain has never gone around to my back before.”

## Medical History

- No family history of GI disease.
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# Assessment

<b>Biomedical Marker</b>	<b>Elena's values</b>	<b>Normal Values</b>	<b>Reason</b>
Albumin	3.6	3.5-5 g/dL	Normal
Total Protein	6	6-8 g/dL	Normal
Prealbumin	20.5	16-35 mg/dL	Normal
Transferrin	155 (low)	250-380 mg/dL	Negative acute phase responder. Possibly unrelated
Glucose	130 (high)	70-100 mg/dL	Impaired insulin production/metabolic stress
Bilirubin	1.5 (high)	<0.3 mg/dL	RBC breakdown caused by leakage of pancreatic enzymes.
ALT	45 (high)	4-36 U/L	Biomarker for liver injury.
AST	50 (high)	0-35 U/L	Biomarker for liver injury.
Cholesterol	225 (high)	120-199 mg/dL	Poss. heredity/lifestyle/diet
HDL-C	40 (low)	>55 mg/dL	Poss. heredity/lifestyle
TG	250 (high)	35-135 mg/dL	EtOH



# Assessment

<b>Biomedical Marker</b>	<b>Elena's Values</b>	<b>Normal Values</b>	<b>Reason</b>
WBC	14.5 (high)	4.8-11.8 x 10 <sup>3</sup> /mm <sup>3</sup>	Infection
HGB	11.6 (low)	12-15 g/dL	Nutritional deficiency
HCT	35.7 (low)	37-47 %	Nutritional deficiency
MCV	101.5 (high)	μm <sup>3</sup>	Macrocytic anemia due to b12 deficiency
% GRANS	84.2 (low)	34.6-79.2 %	Infection
Ferritin	19.5 (low)	20-120 mg/mL	Iron depletion

# Assessment

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- Psychosocial Factors
    - Education: Bachelor's Degree
    - Occupation: Pharmaceutical Sales Rep. (50+ hours/week)
    - Household Members: Lives alone
  - Other
    - Smoke: no
    - Drink: yes (2-3 drinks/day)
      - Patient stated that she started drinking in high school on the weekends when her friends had parties – only beer (1-2 cans per night)
      - During college drank on weekends often consuming 5 or more drinks per night
    - Meds: antacids & Ortho-Tri Cyclen-28 day cycle
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# Assessment

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- Usual Dietary Intake
  - Breakfast
    - Dry bagel, 1 cup black coffee
  - Lunch
    - Diet coke,
    - Lean Cuisine-usually Swedish meatballs (with noodles)
  - Dinner
    - 5 oz white wine while preparing dinner
    - baked potato-medium sized, with butter, sour cream, and chives
    - 2 stalks steamed broccoli with cheese sauce (made from Cheez Whiz)
    - 2 glasses (5 oz) white wine
  
- Total calories: 1316
- Protein: 54 grams



# Assessment

- Intake on the Road
  - Breakfast
    - ¾ cup dry cereal with 1½ cups 2% milk
    - 1 cup orange juice
    - 1 cup black coffee
  - Lunch
    - Often doesn't eat lunch but when she does...
    - McDonald's fruit and yogurt parfait
    - Medium Diet Coke
  - Dinner
    - Usually some type of appetizer-most likely fried mushrooms
    - spinach salad with hot bacon dressing
    - fettuccine Alfredo or small (6 oz) filet mignon with garlic mashed potatoes
    - 2-3 glasses of wine (6 oz glasses)
  - After-dinner drink
    - Usually sherry (3 oz)
- Total calories: 1879
- Protein: 48 grams



# Assessment

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## □ Kcal Needs

- $655 + (9.6 \times 50.9) + (1.8 \times 172.7) - (4.7 \times 30) = \text{BEE}$
- $1313.5 \times 1.3 \times 1.2 = 2049 \text{ kcals/day}$
- $40 \text{ kcal}/50.9 \text{ kg} = 2040 \text{ kcals/day}$

## □ Protein Needs

- $50.9 \text{ kg} \times 1.3 \text{g/kg} = 66 \text{ g protein/day}$

# Diagnoses

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- ❑ Excessive alcohol intake (NI-4.3) related to pressure from job and lifestyle factors as evidenced by 24 hour recall and usual diet recall.
  - ❑ Involuntary weight loss (NC-3.2) related to nausea, vomiting, poor appetite, and diarrhea as evidenced by 20% weight loss over 1 year.
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# Intervention

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- Treatment Plan
    - Pregnancy Test
    - CBC
    - Chemistry with liver and pancreatic enzymes
    - Urinalysis
    - Upper GI with small bowel follow-through
    - CT scan of abdomen and pelvis
    - 72 hour stool collection for fecal fat
  - 1 liter NS bolus, then D5NS @ 150 cc/h
  - Demerol 25 mg IM q 4-6 h
  - NPO
  - Chlordiazepoxide 25 mg IV q 6h x 3d
  - Thiamine 100 mg IV daily x 3d
  - Folic acid 1 mg IV daily x 3d
  - Multivitamins 1 amp in first liter of IV fluids
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# Intervention

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- Initiate Parenteral Nutrition (ND-2)
  - Patient cannot tolerate an enteral feeding which might stimulate the pancreas
  - Delay PN until after peak inflammatory response has occurred → approximately 5-7 days
  - NG suction
  - ADAT



# Intervention

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- Kcal needs: 2049 kcals
  - Kcal needs with fever: 2365 kcals
  - 66 g protein per day
  
  - Pro:  $66\text{g}(4\text{kcal/g}) = 264/2365 = 12\%$
  - Fat:  $25\%(2365) = 592/9\text{kcal/g} = 66\text{g}$
  - CHO:  $63\%(2365) = 1490/4\text{kcal/g} = 373\text{g}$
  - TPN Recommendation: (g/day)
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# Intervention

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## Comprehensive Nutrition Education (E-2)

- To educate patient on her new diagnoses and modification of alcohol consumption.

- Moderate to low-fat diet.
- Pancreatic enzymes with each meal and snack
- Avoid GI stimulants (alcohol, coffee, tea, spices and condiments)
- MCT oil
- B12 and folate supplementation
- Antacids, H2 receptor antagonists, proton pump inhibitors

# Intervention

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## Outcome goals

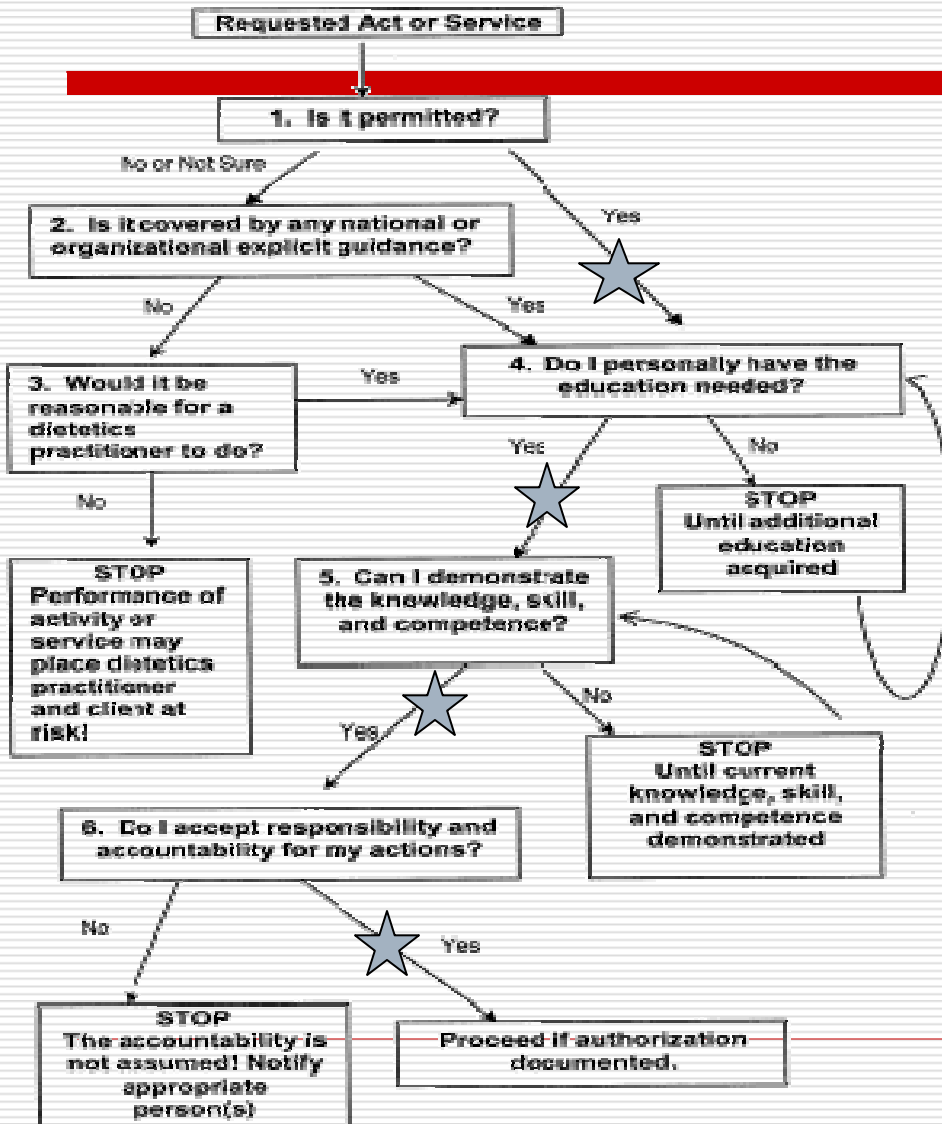
### ■ Short Term

- Progression from NPO→ PN→ oral diet.
- Cessation of alcohol consumption to prevent further destruction of patient's pancreas.
- Patient understanding of how alcohol is damaging her body.

### ■ Long Term

- Weight gain to UBW
  - Normalize lab values (glucose, hgb/hct, mcv)
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# Scope of Practice



\*Initiate parenteral nutrition (ND-2)

\*Comprehensive nutrition education (E-2)

# Monitor & Evaluate

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- Follow-up in 3 weeks
    - Monitor patient's labs:
      - Glucose (diabetes)
      - Amylase and lipase
      - B12 and folate (anemia)
  - Monitor patient's adherence to abstaining from alcohol
  - Monitor patient's weight
  - Refer to social work for EtOH services
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