Critical evaluation of Priorities and therapeutic outcome measures

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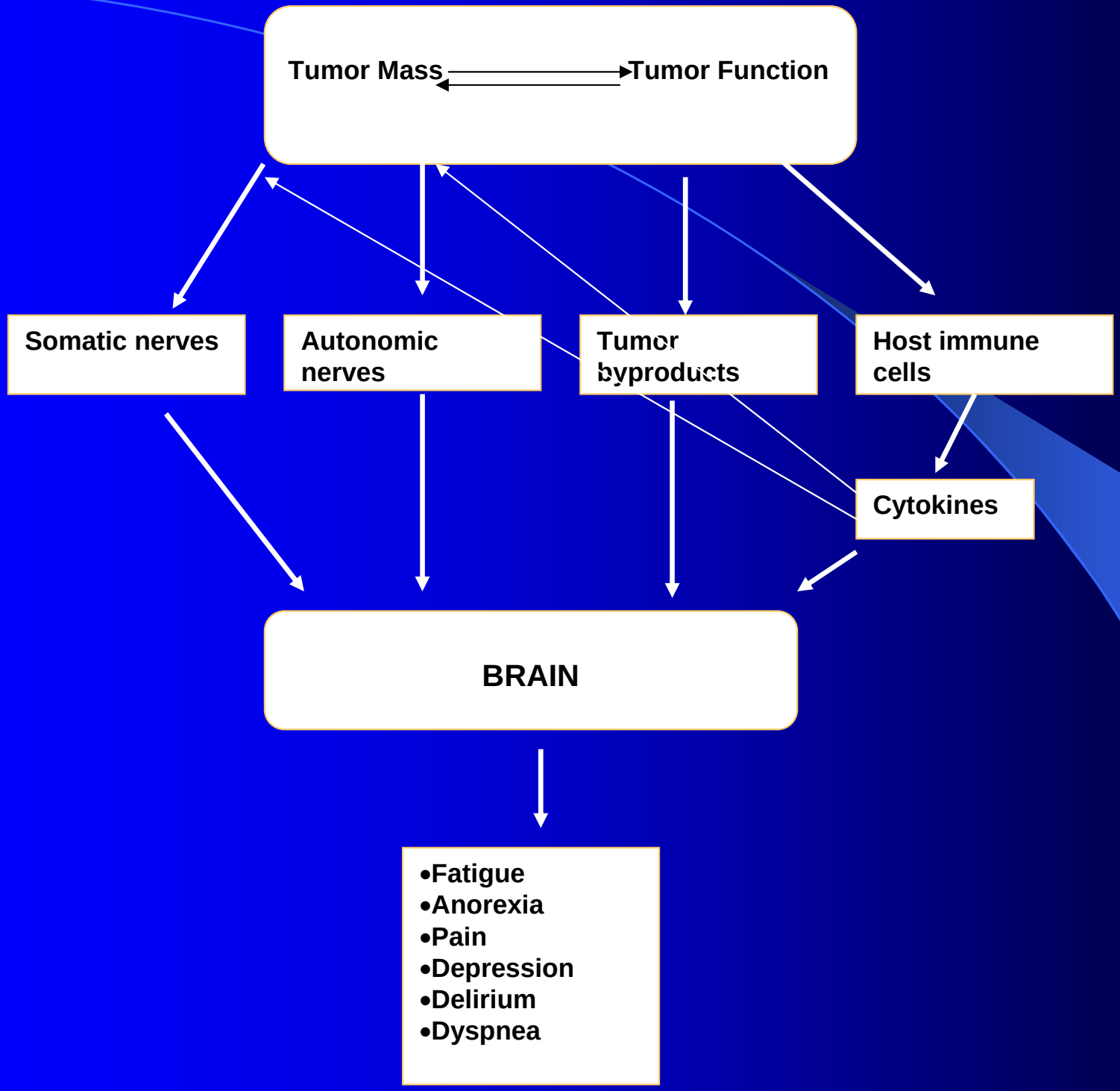
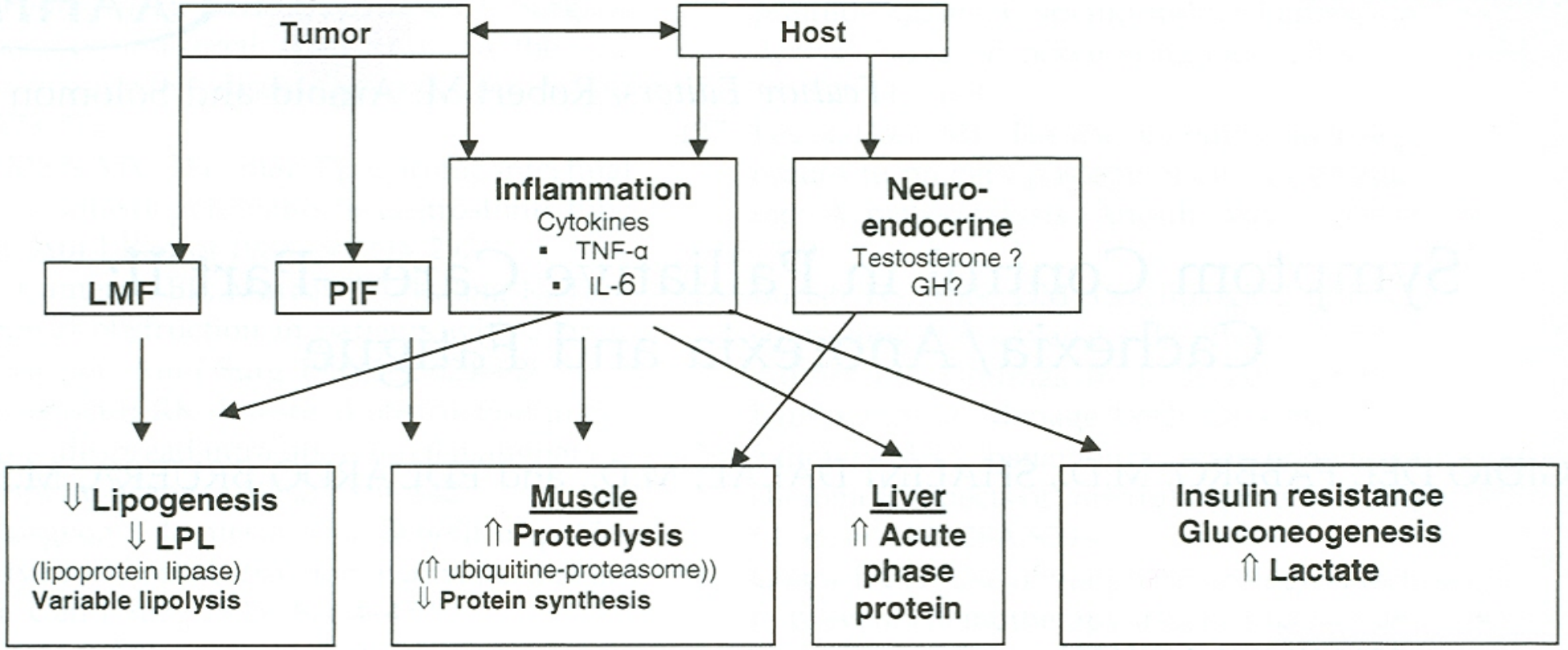
Patient's Problems

- Pain (80%)
- Fatigue (90%)
- Weight Loss (80%)
- Lack of Appetite (80%)
- Nausea, Vomiting (90%)
- Anxiety (25%)
- Shortness of Breath (50%)
- Confusion-Agitation (80%)



Cachexia

Why does cachexia happen?

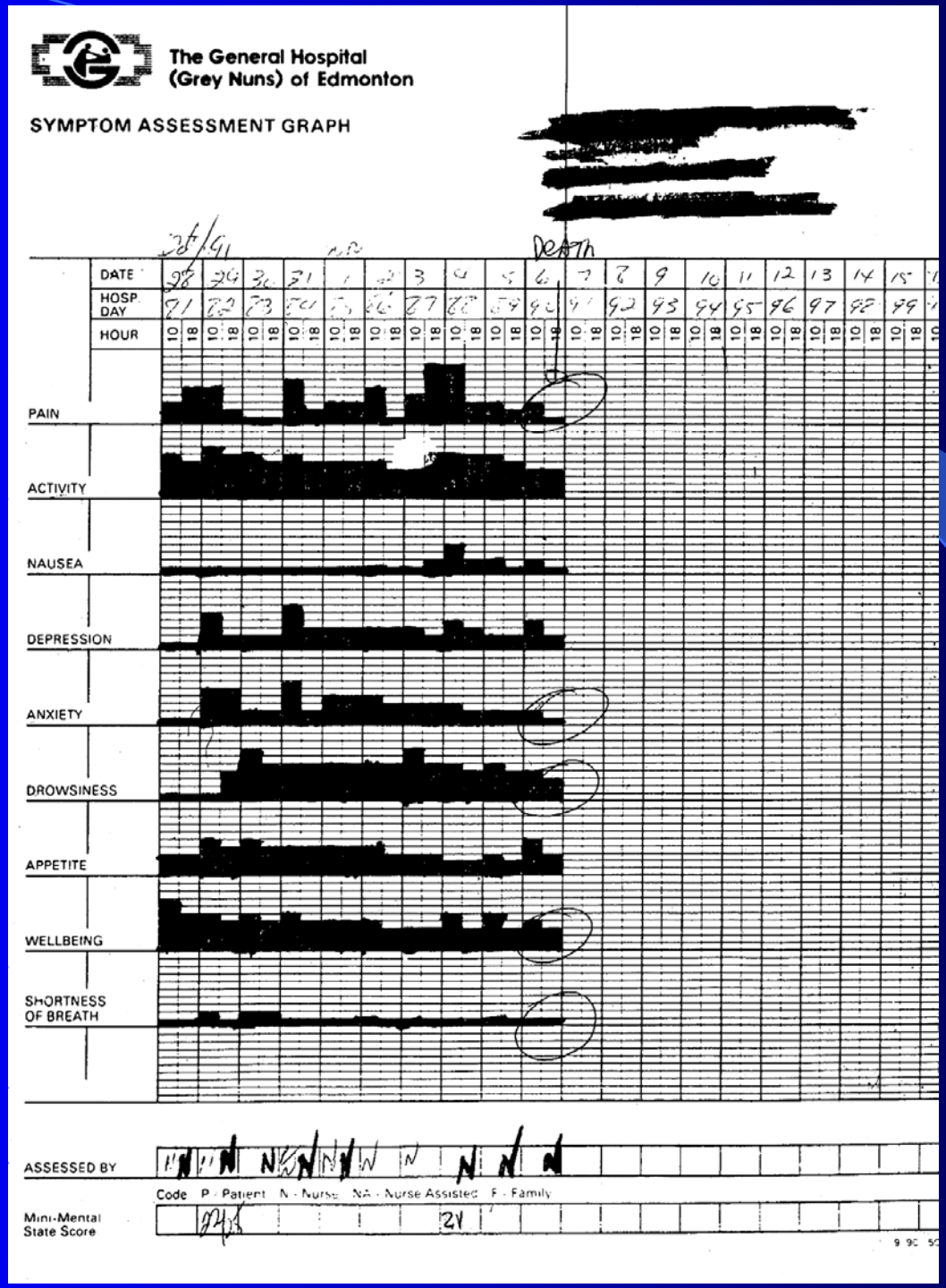


Clinical effects of cachexia

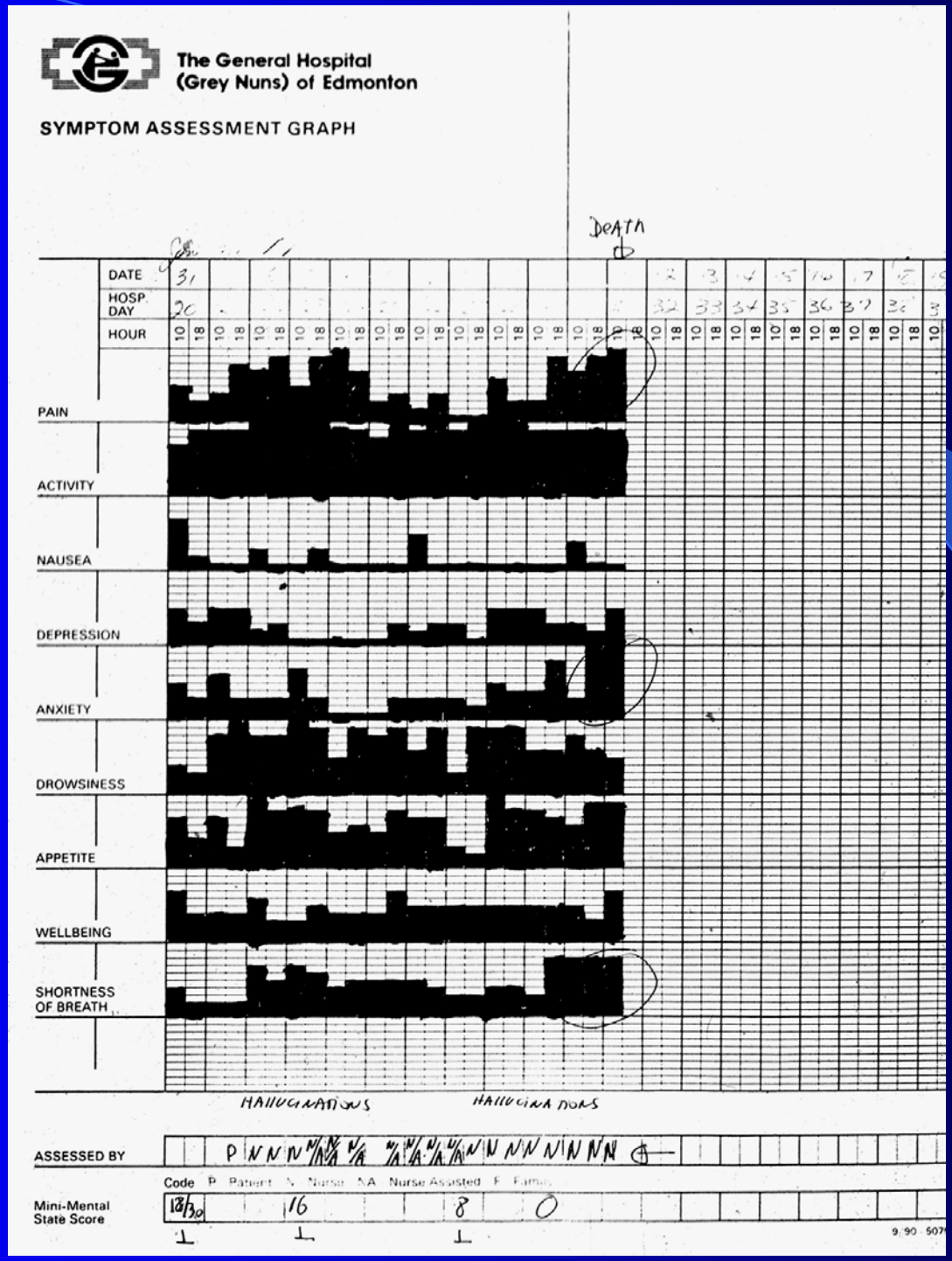
- Symptoms: anorexia, fatigue, nausea
- Psychological distress Pt/family
- Body composition
- Physical function
- Survival

Symptoms/ distress Pt & family

- Global: ESAS, Q of L scales
- Specific: Fatigue (FACIT-F),mood, nausea, etc
- Family distress tools



Cachexia



Cachexia

Body composition

- Present/ usual weight (5%, 10%)
- BIE
- Anthropometrics
- Percentual caloric intake
- Albumin, pre-albumin
- Caloric intake (% intake, diaries)
- Imaging? CT scan MRI muscle/ fat

Physical function

- Subjective description of performance
- Subjective status upon performance
- Tests: 6 min walk, stand up and go, Simmonds, actigraph, pedometer
- O2 consumption, heart rate

Anorexia/Cachexia Decision-Making

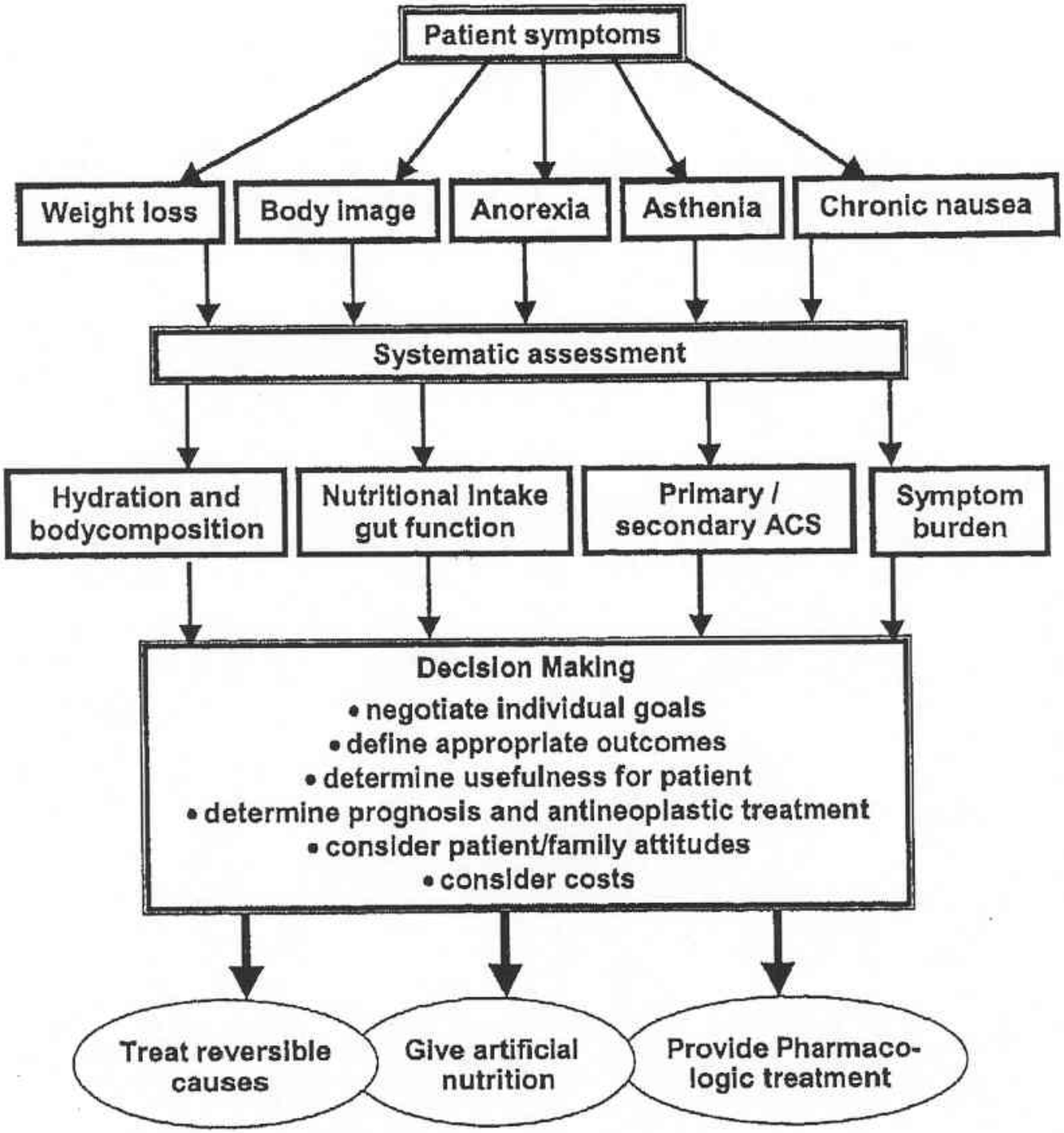


Fig. 3. Clinical management of cancer anorexia and cachexia.

Interventions

- **Treat primary cachexia**
- **Nutrition**
- **Exercise**
- Treat secondary cachexia (nausea, taste, dysphagia)
- Treat associated symptoms (depression, pain)

Treat primary cachexia

- Tumor byproducts (targeted therapies, hormones)
- Proteasome inhibitors (bortezomib, others)
- Cytokine block (thalidomide, monoclonal Abs), anti-inflammatory
- Target organs (appetite, muscle)

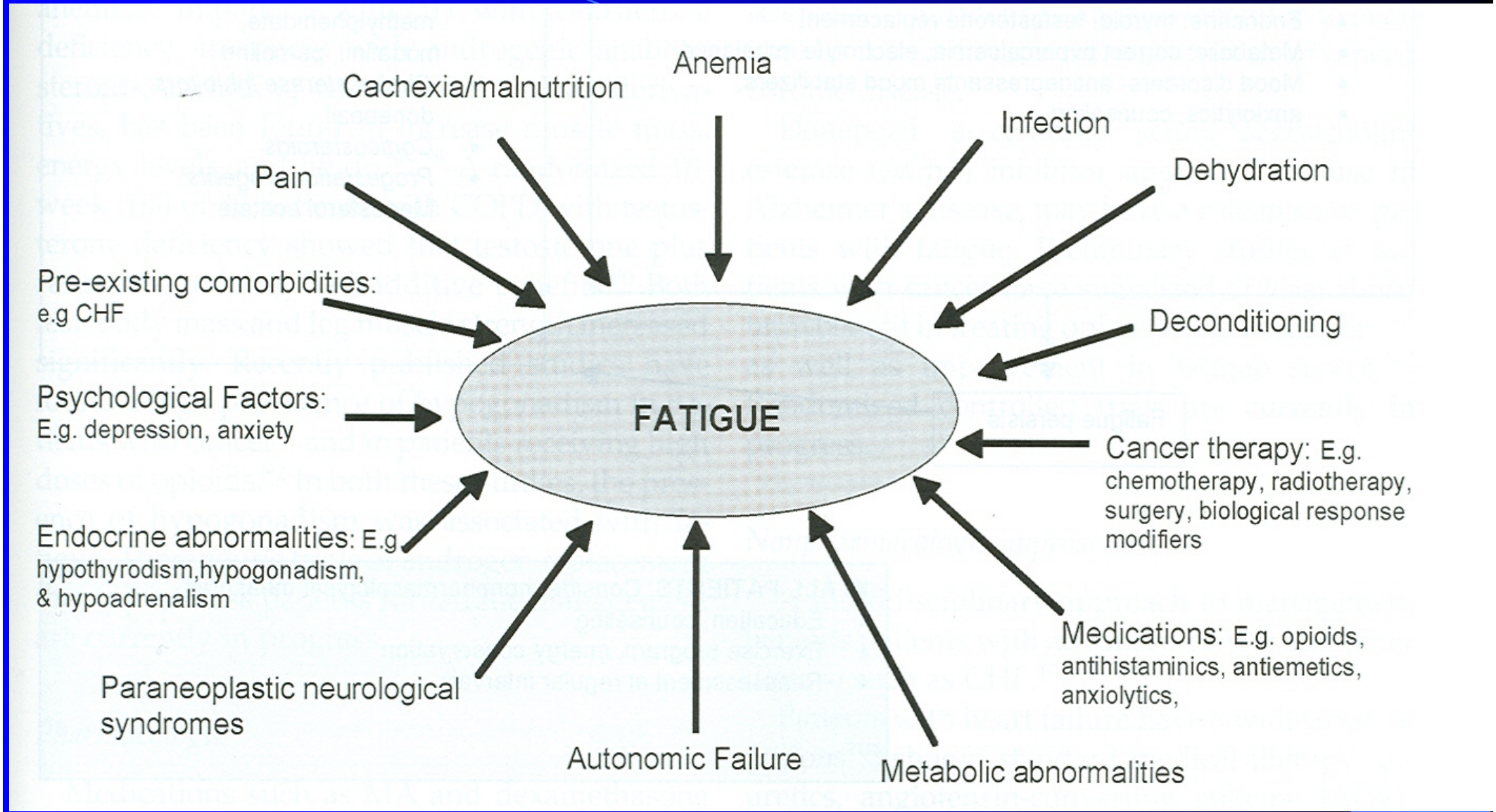
Nutrition

- Oral Vs parenteral/ enteral
- Energy Vs protein
- Differential nutrition (PUFAs, branched chain AAs, arginine)- what is really lacking?
- Stimulate intake: ghrelin, pro-motility
- Treat secondary cachexia: dysphagia, depression, meal preparation

Exercise

- ADLs as exercise
- Increased walking (pedometer, actigraph)
- Upper limb exercise
- Individualized plan
- Treat fatigue!!
- Add testosterone/ steroids?

Essential for increased LBM



Fatigue 8/10

	Patient 1	Patient 2
Depression	60%	10%
Cachexia	10%	50%
Anemia	10%	30%
Opioids	20%	0%
Autonomic	0%	10%

Treat secondary cachexia

- Starvation component

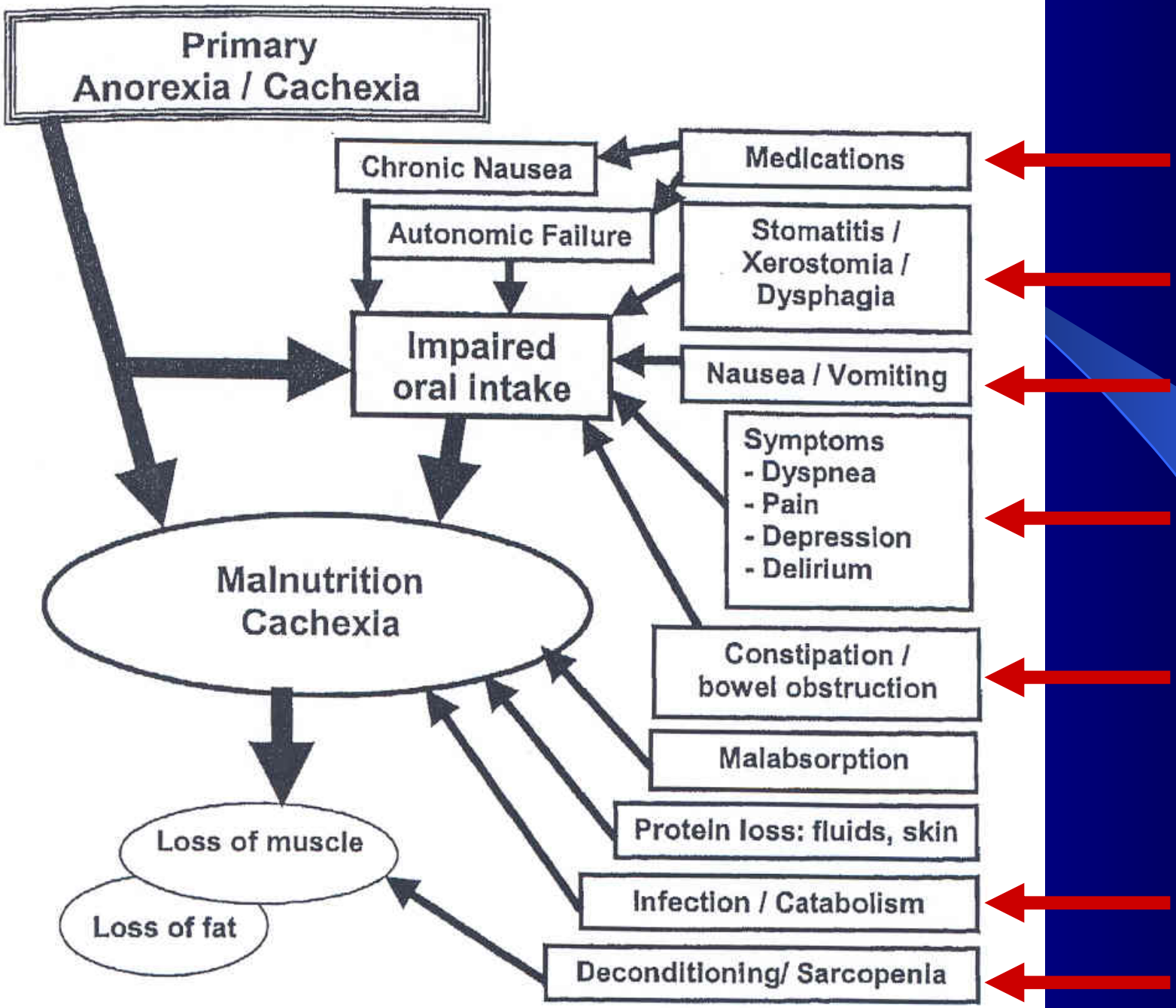
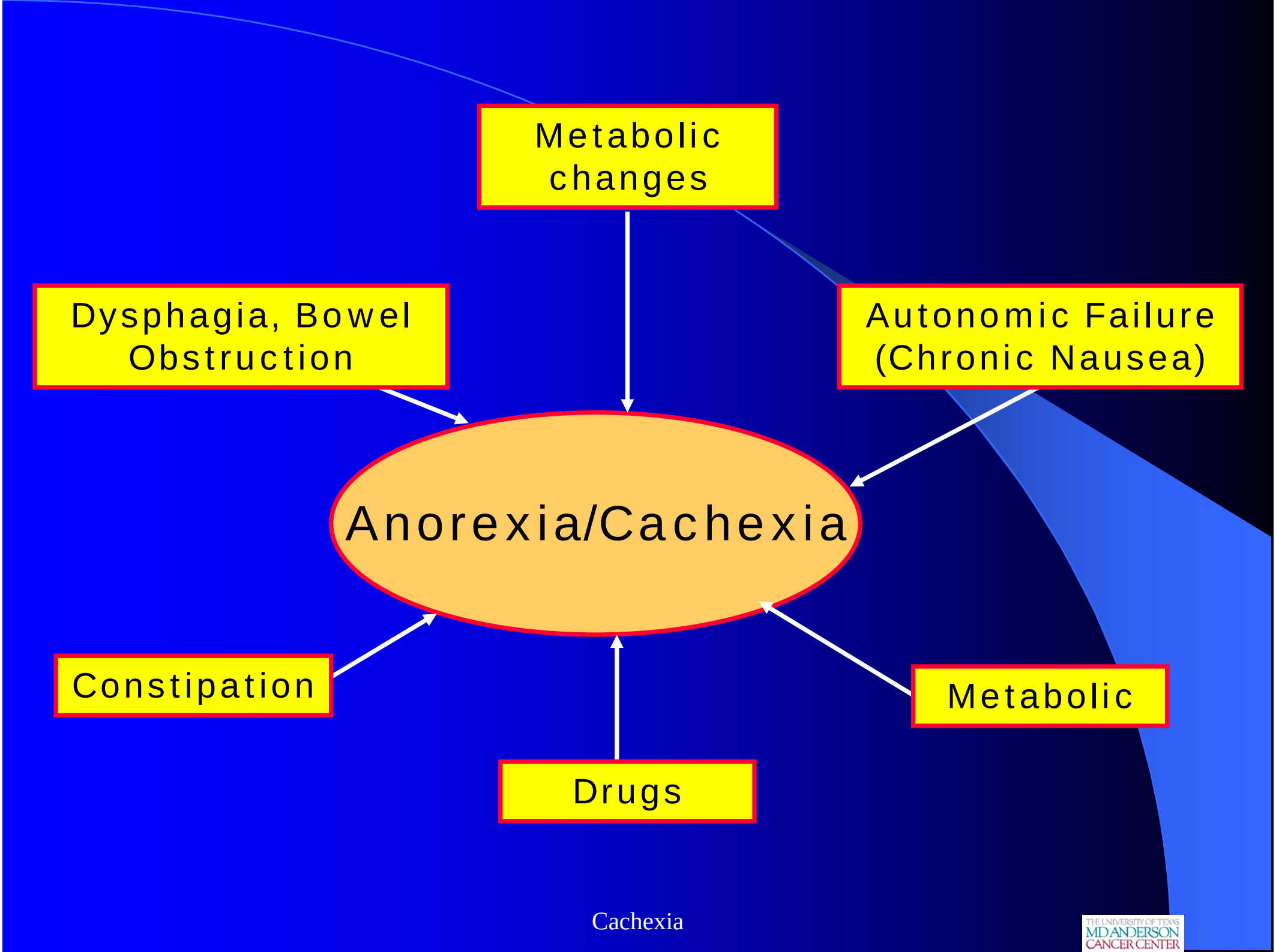


Fig. 1. A diagram of the main pathogenetic elements of primary anorexia and cachexia in cancer patients.



Primary outcome: depends on the intervention!

- Different outcomes need different time:

1. Symptoms are legitimate outcomes: anorexia, early satiety, family distress
2. Weight/ fat gain: body image, QoL
3. LBM/ body cell mass
4. Function!, fitness.
5. Complications/ infections
6. Response to treatment: cancer/ AIDS/leprosy,TBC
7. Survival

Combined therapy!

- Primary cachexia : anti-proteasome, anti-cytokine, anti-inflammatory
- Nutritional support: Energy (+ ?)
- Exercise
- Target organs: appetite (ghrelin), muscle (testosterone)
- Secondary/ associate: depression, taste, nausea, constipation