Cancer-Related Fatigue (CRF) is a distressing persistent, subjective sense of physical, emotional and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning.

Most common symptom experienced by cancer patients (prevalence 60-90%) in patients with metastatic disease exceeds 75%

Associated with psychological disturbance, symptom distress and functional status.

Hesitant to report due to fear of not receiving maximum cancer treatment
Believe an expected symptom that is untreatable and should cope with it
Believe will be perceived as “complainer”
May believe sign of recurrent or advancing disease

Lack of knowledge in this area and limited treatment options
Time constraints in busy outpatient practice
Update in Cancer-Related Fatigue

Pathophysiology

Hypotheses:
- Abnormal secretion of substances (cytokines or antibodies) that impair metabolism or affect normal muscle function
- Abnormalities in energy metabolism relating to increased requirements (secondary to tumor growth, infection or treatments)
- Decreased availability of metabolic substrates (anemia, malnutrition, hypoxemia)

Approaches to Patients with CRF

- None to mild (0-3)
  - Education
  - General strategies to manage fatigue
- Moderate (4-6) or Severe (7-10)
  - Education
  - General strategies to manage fatigue
  - Primary evaluation

General Strategies for CRF Management

- Self-monitoring of fatigue level
- Energy conservation
  - Set Priorities
  - Pace
  - Delegate
  - Schedule activities at times of peak energy
  - Labor-saving devices
  - Postpone nonessential activities
  - Limit naps to 20-30 minutes or less

Structured daily routine
- Attend to one activity at a time
- Use distractions
- Games, music, reading, etc.

Focused history
- Disease status and treatment
- Re-occurrence or progression
- Current meds/med changes
- Prescriptions/OTC’s/supplements
Update in Cancer-Related Fatigue

**Primary Evaluation for CRF (cont’d)**

- Review of systems
- In-depth fatigue history
  - Onset, pattern, duration
  - Change over time
  - Associated or alleviating factors
  - Interference with function

**Assessment of Treatable Contributing Factors (cont’d)**

- Nutrition Assessment
  - Weight/caloric intake changes
- Activity level
  - Decreased activity
  - Decreased physical fitness
- Medication SE profile (sedation)
- Fluid electrolyte imbalance

**Assessment of Treatable Contributing Factors**

- Pain
- Emotional distress
  - Anxiety
  - Stress
  - Depression
- Anemia
- Sleep disturbance
  - (obstructive sleep apnea, insomnia, restless leg syndrome, etc.)

**Assessment of Treatable Contributing Factors (cont’d)**

- Comorbidities
  - Infection
  - Cardiac dysfunction
  - Pulmonary dysfunction
  - Renal dysfunction
  - Hepatic dysfunction
  - Neurologic dysfunction
  - Endocrine dysfunction

**Interventions**

- Non-Pharmacologic
  - Activity Enhancement *
  - Psychosocial Interventions*
  - Sleep Therapy
  - Nutrition Consultation

- Pharmacologic

(*strongest evidence base)
**Update in Cancer-Related Fatigue**

**Exercise (category 1)**
- Regime individualized
  - Patient age and gender
  - Type of cancer present
  - Cancer therapy receiving
  - Physical fitness level

**Summary of Exercise Studies**
- Studies include patients receiving active treatment and those who have completed treatment
- Designs vary; sample sizes often small — many series limited to women with breast cancer
- Type of aerobic exercise is variable (walking, exercise bicycling, resistance training or patient allowed to choose exercise preferred)
- Varied in lengths from 6 weeks – 6 months

**3 Comprehensive Reviews**
- Benefits of exercise:
  - Fatigue
  - Emotional distress
  - Sleep disturbance
  - Functional quality, better QOL
- Kangas et al. Psychol Bull 2008

**Psychosocial Interventions**
- Cognitive behavioral therapy/Behavioral therapy (category 1)
- Psycho-educational therapies/Educational therapies (category 1)
- Supportive expressive therapies (category 1)

**Sleep Therapy**
- Significant disturbances (insomnia, hypersomnia)
- Effective sleep interventions:
  - Stimulus control (consistent time lying down and getting up, avoiding caffeine and stimulating evening activity)
  - Sleep restriction (avoiding long or late afternoon naps, limiting time in bed to sleep normally obtained)
- Education and counseling on sleep hygiene
- Pharmacologic

**Nutrition Consultation**
- Education
- Appropriate referral to nutritionist
- Pharmacologics as appropriate (antiemetics)
**Update in Cancer-Related Fatigue**

**Pharmacologic Interventions**

- Stimulants
- Antidepressants
- Steroids

**Stimulants**

- Methylphenidate (short/long acting)
- Modafinil
- Armodafinil

**Antidepressants**

(Only if depression coexists with fatigue)

- Selective serotonin-reuptake inhibitors
- Secondary amine tricyclics
- Bupropion

**Low-Dose Corticosteroids**

(Used in patients with advanced cancer)

- Dexamethasone
- Prednisone

**Alternative Therapies**

- Yoga  
- Acupuncture  
- Ginseng

**Summary**

- Fatigue and Sleep  
- Fatigue  
- Gen/physical subscales  
- Mental/emotional or vigor

CRF is a significant issue for cancer patients and cancer survivors.

- Healthcare providers should routinely query patients regarding fatigue, and patients should be proactive and routinely request information about this symptom.
- Patients should alert health care providers when fatigue occurs and request appropriate evaluation and treatment.
- There are interventions that may improve fatigue.