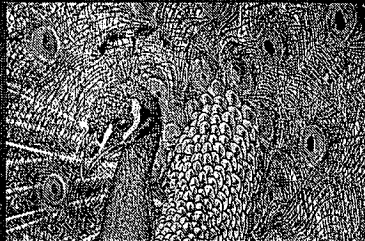


CANCER NUTRITION AND REHABILITATION... IT REALLY DOES

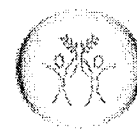
WORK

Dr. Martin Chasen
Medical Oncologist/
Palliative Care Physician

Clinical Director
MUHC Cancer
Rehabilitation Program



The McGill University Nutrition-Rehabilitation Programme



www.mcgill.ca/cnr

McGill Cancer Nutrition – Rehabilitation Program

- Cancer rehabilitation is a process that assists the patient to obtain optimal physical, social, psychological and vocational functioning within the limits created by the disease and its treatment

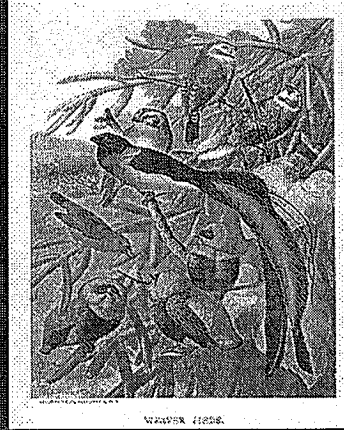
Paradigms of Cancer Rehabilitation

Dietz (1981):

- ❑ Preventive interventions
- ❑ Restorative interventions
- ❑ Supportive interventions
- ❑ Palliative interventions

Multidisciplinary Team Approach

- Addresses the rehabilitation needs of the patient from the time of diagnosis
- Team members may include:
 - Physician
 - Rehabilitation oncology nurse
 - Dietitian
 - Physical/occupational therapist
 - Social worker
 - Psychologist, psychiatrist
 - Recreational therapist
 - Vocational therapist
 - Clinic manager
 - Chaplain
 - volunteers



Historical Bases of Cancer Rehabilitation and Survivorship

- 1971 United States National Cancer Act
- 1972 National Cancer Rehabilitation Planning Conference - NCI sponsored

1972 National Cancer Rehabilitation Planning Conference - NCI sponsored

- Psychosocial support
- Optimization of physical functioning
- Vocational counseling
- Optimization of social functioning

McGill Cancer Nutrition – Rehabilitation Program (CNRP)

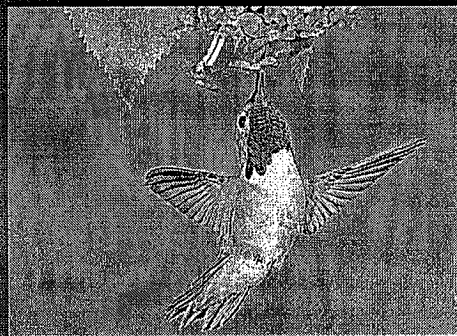
- Organizational Structure
 - McGill Department of Oncology
 - Division of Palliative Medicine
 - Departments of Medicine and Oncology MUHC
- Origin 2003 with clinics at the Sir Mortimer B Davis-Jewish General Hospital and Department of Medicine MUHC
- 2006 Cancer Rehabilitation Program RVH

CANCER REHAB TEAM

Physician
Nurse
Psychologist
Physiotherapist
Occupational Therapist
Dietician
Nurse Educator
Medical Secretary

Role of the Dietitian

- complete a thorough nutrition assessment
- design a nutrition care plan tailored to the patient's needs
- provide counseling and information on optimizing food intake
- provide counseling on symptom control such as nausea, vomiting, diarrhea, etc
- ensure adequate food intake to optimize function and quality of life



**American Society of
Parenteral and Enteral
Nutrition recommends that
all patients undergo
nutritional screening as a
component of their initial
assessment**

Nutritional Status is important:

- Predicts the risk associated with treatment
- Predicts response to treatment
- Predicts survival and Quality of Life

**Dietary Counseling improves patient outcomes. A
prospective, randomized, controlled trial in
colorectal cancer patients undergoing radiotherapy.**

**Paula Ravasco, Isabel Monteiro-Grillo, Pedro
Marques Vidal et al.**

JCO 23:1431-1438

March 1 2005

111 colorectal patients

45 stage I/II

66 Stage III/IV

- 37 – dietary counseling on regular foods
- 37 – protein supplements (2 cans/day)
- 37 – ad libitum intake

Evaluation

- Nutritional Intake (diet history)
 - 24 hour food recall questionnaire
- Anthropometric Data
- PGSGA
- QoL (EORTC - QLQ - C30)

At end of RT

- Group 1 - Energy intake increase of 555kcal/d (398 - 758) $p = 0.002$
- Group 2 - Energy intake increase of 296 kcal/d (286 - 401) $p = 0.04$
- Group 3 - Energy intake decreased - 285kcal/d (201 - 398) $p < 0.1$

Group 1 > Group 2 ($p = 0.001$)

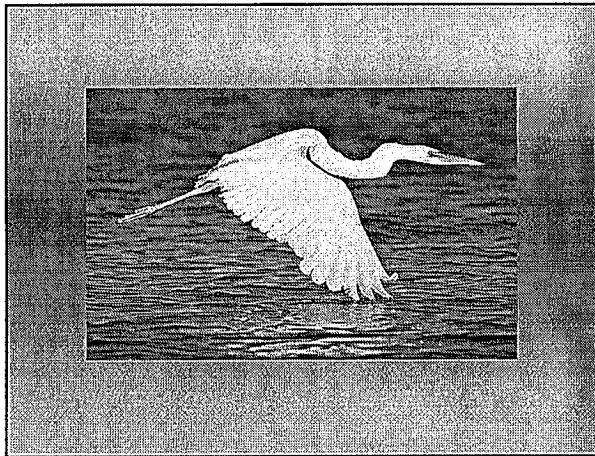
Baseline

- 15 malnourished in Group 1
- 14 malnourished in Group 2
- 13 malnourished in Group 3
- At 3 month
 - Additional nutritional degeneration in G 2 and G3 relative to G1 ($p < 0.001$)

Quality of Life

At 3 months:

- G1 patients maintained or improved QoL ($p < 0.02$)
- G2 patients maintained or worsened QoL ($p < 0.03$)
- G3 patients deteriorated ($p < 0.004$)



Role of Physiotherapist

- ❑ complete a thorough physical assessment taking into consideration lifestyle, work habits, etc
- ❑ develop an individualized treatment plan tailored to the patient's needs in order to prevent muscle wasting, to maintain cardiovascular stamina and to promote functional independence.
- ❑ provide patient with a home program to maximize results
- ❑ educate patient on importance of exercise and activity to optimize function and quality of life

Physical Activity and Survival after breast cancer diagnosis

- Holmes MD, Chen WY, Feskanich D, Kroenke CH and Colditz GA.
- *JAMA* 2005 May 25; 293(20):2479 - 86.

Nurses' Health Study

121,700 nurses
30 — 55 years

Stages I, II or III invasive
breast cancer diagnosed between
1984 – 1998
Followed until death
or June 2002

■ MET = metabolic equivalent task

■ 1 MET = energy expenditure of sitting quietly

■ MET scores = the ratio of the metabolic rate of
the activity divided by the resting metabolic rate

MET - Hours of Activities Surveyed	
Leisure-Time Activity	MET
Normal pace walking (2 to 2.9 mph)	3
Brisk pace walking (3 to 3.9 mph)	4
Very brisk pace walking (4+ mph)	4.5
Jogging (slower than 10 min/mile)	7
Running (faster than 10 min/mile)	12
Bicycling	7
Tennis, squash, racquetball	7
Lap swimming	7
Calisthenics, ski or stair machine, other aerobic exercise	6
Yoga, stretching, toning, lower intensity exercise	4
Other vigorous activities (lawn mowing)	6
Abbreviations: MET = metabolic equivalent task; mph = miles per hour	
Source: Ainsworth BE, Haskell WL, Leon AS, et al: Compendium of physical activities: Classification of energy costs of human physical activities. Med Sci Sports Exerc 25:71-80, 1993	

Covariates: extracted from
medical records

■ Tumour size

■ Lymph nodes

■ ER/PgR

■ Method of treatment

■ Interval between breast cancer diagnosis
and assessment of physical activity

■ Dietary assessment – energy/protein

4484 diagnoses – 1497 excluded

- Reasons for exclusion
 1. Recurrence prior to follow up
 2. No report of physical activity after diagnosis
 3. Stage IV at diagnosis or Stage III with no met workup
 4. Missing disease Stage

■ 2987 included:

- 463 deaths – 280 from breast cancer
- follow up = 96 months

■ Women who were more active:

- had lower BMI
- Consumed more protein
- Less likely to gain weight

- Each category of activity above reference (< 3 MET hours per week) was associated with a decreased risk of adverse event

Multivariable relative risk of death from breast cancer =

- 0.8 (95%CI 0.6 – 1.06)-3 – 8.9 MET hrs/week
- 0.5 (95%CI 0.31 – 0.82)-9 – 14.9 MET hrs/wk
- 0.56 (95%CI 0.38 – 0.84)-15 -23.9 MET hrs/wk
- 0.6 (95%CI 0.4 – 0.89) 24 or more MET hrs/wk

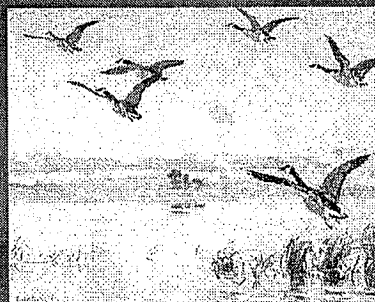
- Using 9 MET hours/week as cutoff,
the RR of death for women
= 0.63(95%CI 0.48 – 0.81)

5 Year Survival

- 97% > 9
- 97% 3 – 8.9
- 93% < 3

10 Year Survival

- 92%
- 89%
- 86%



Infirmière Pivot

1. Contacts all patients referred to the Program
2. Provides appropriate referrals
3. Provides a means for contact of the team with the patient/family caregiver
4. Provides nursing assessment and interventions
5. Provides psychosocial and survivorship information



Psychologist

- Assessment- the level of distress and coping
- Motivation and compliance
- Assist in adjustment to illness e.g. anxiety
- Grief and bereavement
- Group Therapy
- Staff support
- Collaboration and referral
- Research

Designed for Cancer Patients who:

- have a decreased appetite
- are experiencing weight loss
- are experiencing fatigue
- are experiencing loss of function
- Provides information, treatment and support on individual and group basis

Criteria for Accepting Patients

- Patients with a diagnosis of cancer having problems functioning in a physical, social, psychological or vocational area
- PG-SGA > 9 with obvious dysfunction according to ESAS and BFI. Distress thermometer > 3
- Geographically accessible

Referrals from:

- MD's: Oncologists, Surgeons, Palliative Care drs
- Tumour Boards
- Infermiere Pivot and other nurses
- Physio, Dieticians and other medical disciplines

THE TREATING PHYSICIAN REMAINS RESPONSIBLE

ESAS Questionnaire		
Please describe how you have been feeling over the past week (7 days) by circling the number which is most true for you.		
1. I slept well	0 1 2 3 4 5 6 7 8 9 10	Didn't sleep
2. Considering all parts of my life (physical, emotional, social, spiritual and financial) My quality of life was:		
3. I was calm	0 1 2 3 4 5 6 7 8 9 10	Very Bad
4. I had no pain	0 1 2 3 4 5 6 7 8 9 10	Worst possible pain
5. Normal strength	0 1 2 3 4 5 6 7 8 9 10	Extremely weak
6. Normal appetite for me	0 1 2 3 4 5 6 7 8 9 10	No appetite
7. No nausea	0 1 2 3 4 5 6 7 8 9 10	Worst possible nausea
8. Did not vomit	0 1 2 3 4 5 6 7 8 9 10	Vomited all the time
9. Not at all confused	0 1 2 3 4 5 6 7 8 9 10	Completely confused
10. Not sleepy	0 1 2 3 4 5 6 7 8 9 10	Extremely sleepy
11. Not at all depressed	0 1 2 3 4 5 6 7 8 9 10	Extremely depressed
12. Not at all nervous	0 1 2 3 4 5 6 7 8 9 10	Extremely nervous
If you have other problems please write them on the blank box below and rate the scales from 0 to 10, with how much of a problem they have been for you.		
My problem is:	0 1 2 3 4 5 6 7 8 9 10	From these problems
Another problem is:	0 1 2 3 4 5 6 7 8 9 10	Another problem
No problem at all:	0 1 2 3 4 5 6 7 8 9 10	Terriblest problem

Use of Patient Generated Subjective Global Assessment Tool

Revised Patient-Generated Subjective Global Assessment (PG-SGA)

1. Patient's weight loss (in the last 6 months) is:

2. Patient's ability to perform usual activities (in the last 6 months) is:

3. Patient's ability to perform usual activities (in the last 6 months) is:

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January - September 2006

- 114 new patient referrals
- Age Range: 18-84 yrs
- Diagnoses: Breast -15
- Gastro/Esophageal -35
- Pancreatic - 10
- Colorectal - 8
- Lung -12
- Gynecological- 8
- Hematological - 11
- Other - 25

65 New Pt Evaluations

29 -Full Program 8 Weeks

Physiotherapy visits twice a week in groups and regular follow up by nutritionist, nurse, physician and psychologist over an 8 week period. Also, participation in the group education and support sessions once a week (voluntary).

56 Participating

23 did not complete the 8 week program

10 Died -8 Individual and 2 group program

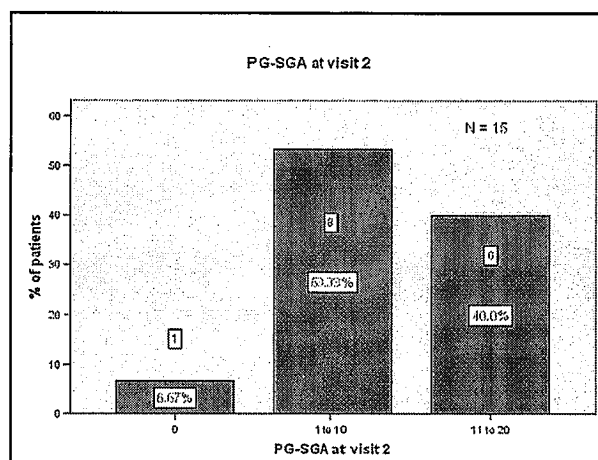
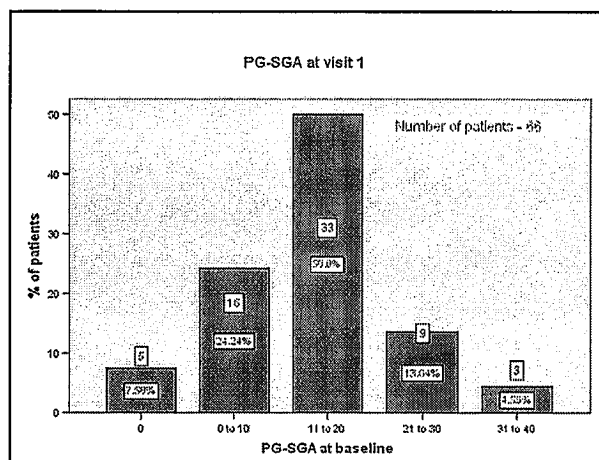
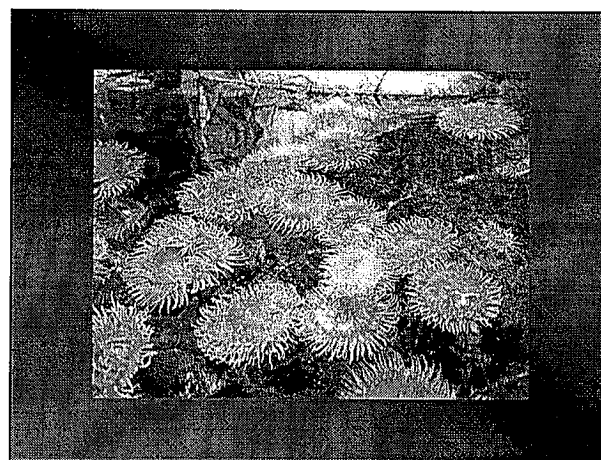
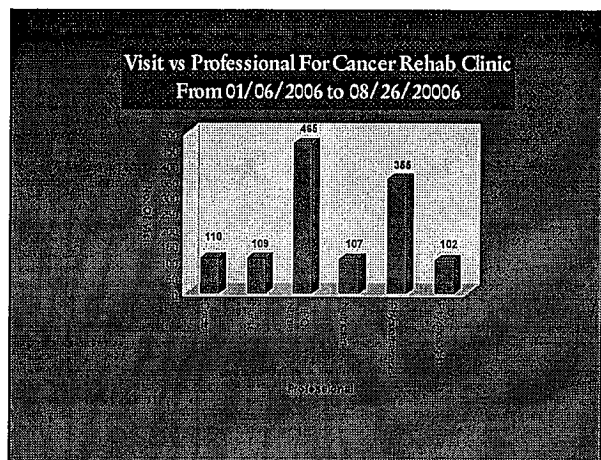
13 Dropped out- 3 Too ill , 10 due to freq of visits

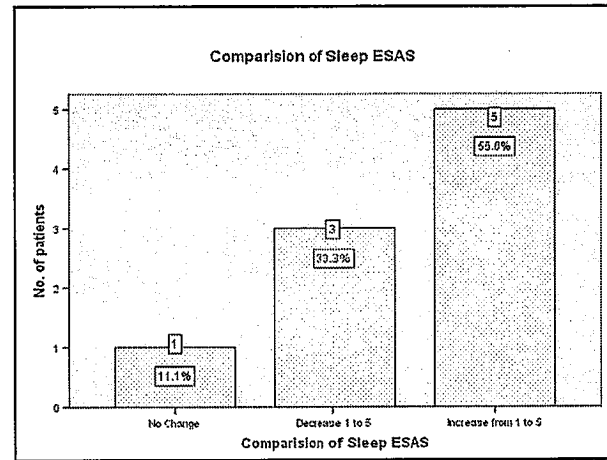
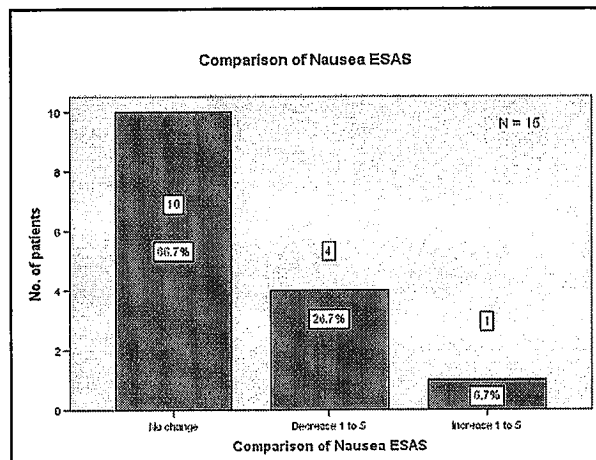
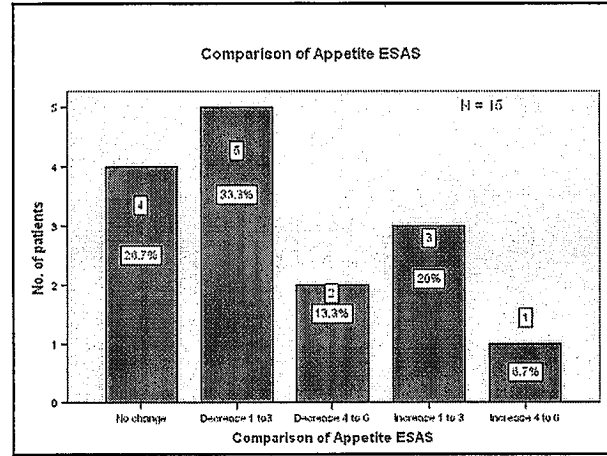
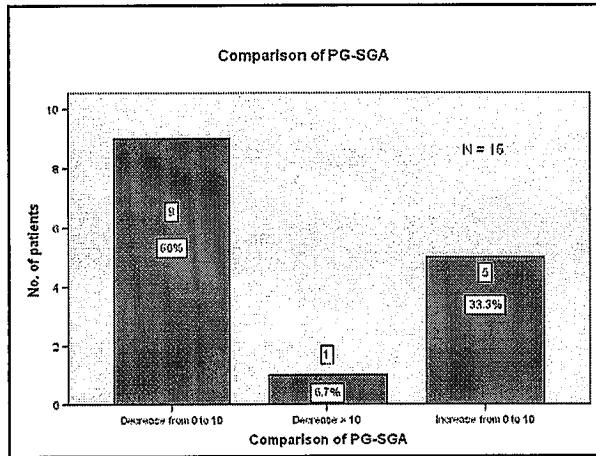
5 Referred to CHIP-Pilot project

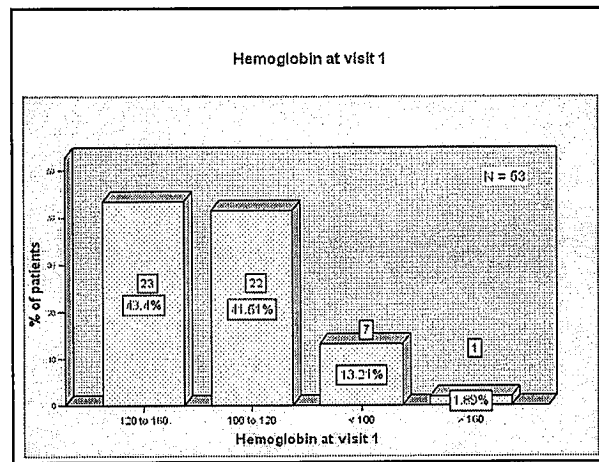
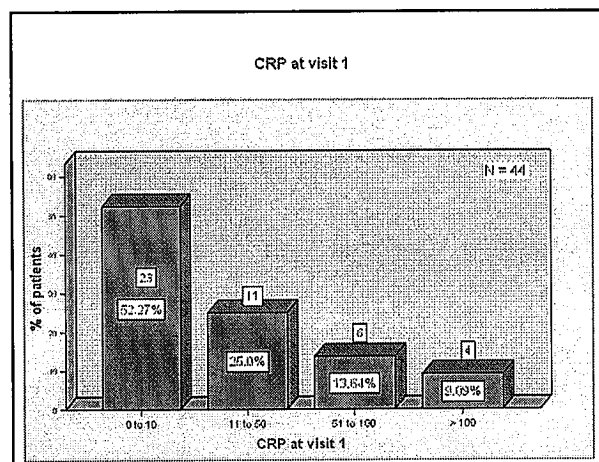
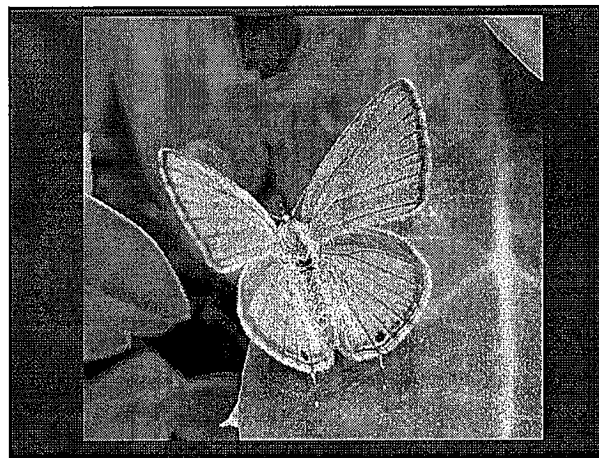
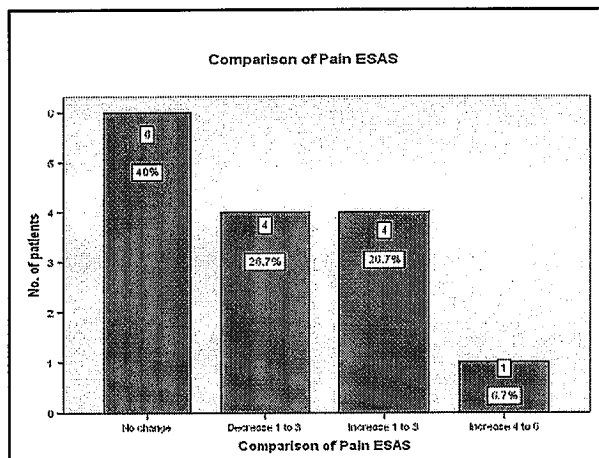
27 Individual Program

For patients unable to come as frequently - seen by physiotherapist at least once post their initial evaluation and given a home exercise program. Individualized follow up by nutritionist, nurse, physician and psychologist. The majority of the individual program patients have not participated in the group education and support sessions.

3 Patients on hold



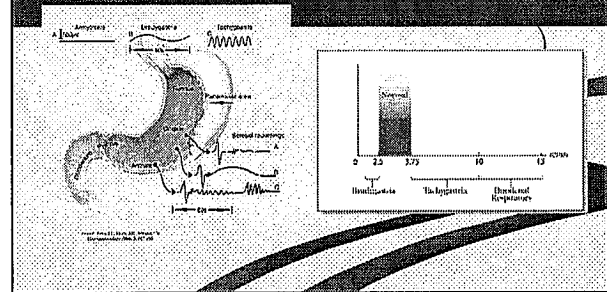




Research

- Electrogastrogram (EGG) with Ghrelin Measure
- Expanding the Role of Preoperative Rehabilitation: The impact of a multidisciplinary program to optimize nutritional reserve and exercise capacity on post-operative complications after thoracic surgery
- The use of THC in cancer patients with chemosensory abnormalities
- Platform for future research for nursing/physio/dieticians and others
- Rehabilitation for patients undergoing bone marrow transplantation

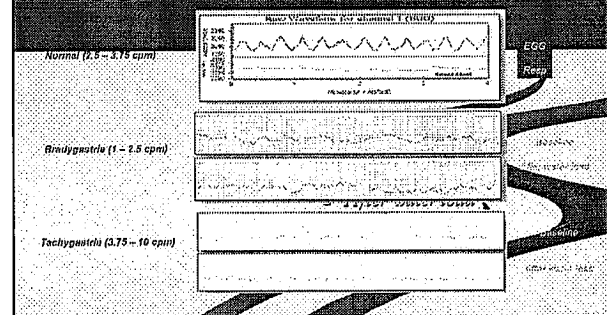
Gastric Pacesetter and EGG Waves



EGG Procedure Visipace Electrogastrogram Analyzer



EGG Waves



EGG Summary Report

