EATING DISORDERS INPATIENT
House Staff Handout

The eating disorder program at the hospital combines the expertise of the Department of Adolescent Medicine and Psychological Medicine along with the resources from the hospital. The service offers a uniform and comprehensive approach to assessment and treatment of young people with eating disorders. The philosophy of the In-patient Program is to provide a supportive and therapeutic environment, which enhances the opportunity for you to return to a healthy weight and healthy eating patterns.

Most patients with anorexia nervosa will be located in Wade (adolescent) Ward (Level 1) and Clubbe (burns) Ward. The program is supported by an adolescent physician, psychiatrist, experienced nursing staff, a dietician, physiotherapist, occupational therapist, teachers and artist, as well as social workers and psychologists who are skilled in individual and family therapy.

Referral Process
Referrals for inpatient admission are made to the Clinical Nurse Consultant and are discussed at a weekly review meeting 12pm – 1pm after the ED Outpatient Clinic on Thursdays.

Where possible an initial assessment should be scheduled for the next available Thursday morning Eating Disorder Clinic.

A decision to admit to the program will be made in discussion with Dr. Michael Kohn (pg 6534) and/or Dr. Sloane Madden (pg 6335), or clinician on call for the program; and will be based on the patient’s medical state, their mental state and bed availability.

Should a patient present to the Emergency Room requiring admission they should be admitted under the care of Drs Kohn and Madden and treatment discussed with these consultants or (if they are not available) with the on call consultant from Adolescent Medicine.

Criteria for admission

(1) The patient has a diagnosis of AN that is associated with any of the following:
   - **Medical instability** secondary to the AN e.g. dehydration, electrolyte disturbance, bradycardia or other rhythm or conduction disturbance, hypotension.
   - **Co-morbid medical problems** complicating the management of the AN e.g. insulin dependent diabetes mellitus.
   - Weight <75% of standard body weight.
   - **Co-morbid psychiatric problems** which complicate outpatient treatment of the AN but which do not preclude participation in the program. E.g. major depression, anxiety disorder, or severe family dysfunction or breakdown.

(2) There is an **available bed**: there will be a maximum of 6 patients with AN admitted to Wade Ward. Of course if a child/adolescent who is medically unstable presents to the Emergency Department or to the Department of Adolescent Medicine they will be admitted to hospital for medical restabilisation but may not be admitted to Wade Ward.

(3) **Age is less than 16 years** (in accordance with general hospital policy)
(4) A patient will only be accepted into the program after fully informed consent obtained and formalised contract for treatment is made with parents. This should be done at the time of admission or as soon as possible after this.

**Note:** A patient with AN may be excluded from the program if he/she has another psychiatric disorder which makes management via the program difficult e.g. severe depression, acute suicide risk or psychosis.

Initial admission under Dr Kohn, or if he is on leave then Dr Madden. If both are on leave then admissions are under the on-call Adolescent Medicine physician.

The primary focus of management at admission is the treatment of the medical complications of AN and the commencement of the most appropriate form of refeeding to attain medical stabilisation and initiate nutritional recovery. A psychiatric assessment of the patient will also be done as soon as possible after admission, and the family engaged in regular family therapy sessions. Dr. Sloane Madden, or the psychiatrist covering for him, should be consulted as part of the admission procedure.

**Admission**

1. **HISTORY**
   - History of presenting illness
   - Minimum weight
   - Maximum weight
   - Duration of weight loss
   - Date of menarche
   - Primary or secondary amenorrhoea
   - Purging, exercise, vomiting, laxatives, others
   - Body image distortion
   - Family composition
   - History of eating disorders
   - Co-morbid conditions: depression, anxiety, OCD, diabetes etc…

2. **PHYSICAL FINDINGS**
   - Pulse
   - Temperature
   - Lying/sitting BP
   - Weight (bare)
   - Height
   - Capillary refill
   - Peripheral cyanosis
   - Features of protein calorie malnutrition e.g. fatty liver
   - Growth, pubertal (menstrual) status, anthropometric assessment
   - Stigmata of binging, purging

3. **TREATING ORDERS**
   - **Provisional diagnosis**
   - **Admit**  Dr Kohn/Madden (as above)
   - **Menu plan** (usually 1500-1800 kCal) of NG feed regime (usually 1200kcal 0.5kcal/ml @ 100ml/hr) 1st 24 hours **
Chart  Sandoz phosphate 500mg bd
Multivitamin one daily
Other medications as charted

Observations  Continuous cardiac monitoring if indicated or Q6h
Weigh  Biweekly with urinalysis
Level  Medical stabilisation or Level 1 restricted activity
Consult  Psychiatry  Dr Madden  6334
Dietician  Kate

Other investigations  Bloods, ECG and pQCT
                     DXA and 4C testing

**Initial medical management**

- **Medical stabilisation** – ie maintenance of vital signs, including heart rate >40/min, temperature >35.5 °C, sys BP >80mmHg, dias >40mmHg. **For patients who are NOT medically stable on admission: continuous nasogastric tube feeding (commencing at 1200 kcal given over the initial 24 hrs, as above); overhead heating.**
  
  *Note: Notification of PICU is required for any patient deemed not medically stable, or for whom electrolyte abnormalities or arrhythmias are noted. No treatment should be undertaken however without consultation with Dr Michael Kohn or the consultant on call for Adolescent Medicine.*

- **Daily physical examination by medical team 1**
- **Daily electrolytes** (incl. Serum phosphate) until within normal range and then biweekly
- **Other investigation as clinically indicated**: detailed below

**Note:** all information should serially be collected by House staff on ED flow sheets. This will be under taken by the fellow in Adolescent Medicine when there is such a person allocated to the ED team.

**Medical Tests**

(a) **blood tests:**

- Full Blood Count/Erythrocyte Sedimentation Rate/ Reticulocyte Count.
- Electrolytes, Urea, Creatinine, Liver Function Tests, Calcium, Magnesium, Phosphorus.
- Leuitinising Hormone, Follicle Stimulating Hormone, Oestriadiol
- Thyroid Stimulating Hormone, T3-RIA, T4

(b) **imaging:**

- Bone Density – DEXA and pQCT
- Total Body Nitrogen – TBN
- Cerebral Imaging – CT/MRI/SPECT scan (as indicated)

(c) **other:**

- Electrocardiograph (ECG)
- Resting Energy Expenditure (metabolic cart)
Refeeding Program:

- Aim to gradually return to a healthy eating pattern whilst gaining approximately 0.8 - 1.0 kg per week (with or without the assistance of nasogastric feeding).
- If nasogastric feeding has been commenced it is weaned once the vital signs are maintained without overhead heating. Nasogastric feeds may be continued only overnight. 1000kcal are given of a 1kcal/ml formula at 100ml/hr, between 8pm – 6am; in conjunction with a 1500 kcal menu plan. The overnight nasogastric feed is reduced by 200-300 kcal aliquots at the biweekly meetings if eating and weight goals are achieved, with equivalent (or slightly greater) increases in the daily menu plan.
- Each patient will have an individualised meal plan worked out by the dietician and the medical team. All patients are required to attend meals, including snacks in the dining room. Meals are at set times (see timetable) and are limited to half an hour and are supervised by nursing staff.
- The caloric content of the meal plan is determined at the biweekly clinical team meetings.
- Nasogastric tube (NGT) feeding is also considered in the following circumstances: deteriorating medical condition, inadequate fluid intake, large amount of weight to gain e.g. >15 kg, continued weight loss e.g. >1 kg in first 4 days or failure to gain weight over time.
- Weight is measured bi-weekly, on Monday and Friday mornings. Patients wear a hospital gown and must void in a bed pan prior to weighing, so that consistent results may be obtained. Urine specific gravity and pH are checked at the same time.

Psychological assessment

- **Standardised instruments**
  - Eating Disorders Inventory – 2
  - Adolescent Psychotherapy Scale
  - Benton Facial Recognition
  - Complex Figure or Rey
  - ASK – Q (self concept measure)

- **Clinical assessment**
  - A full clinical assessment on each patient and their family is made by Dr. Madden. Individual and family therapists are allocated from the Eating Disorders team (psychologists and social workers from the Departments of Adolescent and Psychological Medicine). These assessments and progress in therapy are reviewed in the biweekly clinical meetings.

**Note:** at present there is a set of standardised psychological instruments, biochemical and imaging tests each patient is asked to complete as part of their clinical assessment. This is part of a clinical research project investigating changes with refeeding for all patients during their initial admission.

Overview of Psychological Management

- A psychiatric assessment of the child will be conducted by the psychiatry team at the time of admission, with the aim of identifying all psychiatric disorders which may be primary or secondary to the eating disorder or may be co-morbid conditions eg. delirium, depression, anxiety disorder, post traumatic stress disorder, psychosis.
- Further individual and family assessment will be undertaken by staff allocated from The Department of Psychological Medicine or The Department of Adolescent
Medicine, in order to gain a fuller understanding of the individual, social and family factors which may have predisposed, precipitated and perpetuated the development of AN in each individual patient. These staff members will continue to see the patient and his/her family for on-going therapy which will focus on the specific needs and problems of each child and family.

- In addition specific psychological rating scales will be administered to each child/adolescent and family.
- All decisions regarding the use of psychotropic medication will be made by the psychiatry team.
- Psychometric testing will be performed by a clinical psychologist when this is indicated.

**Clinical meetings**

- **House staff are required to attend rounds unless prior communication is made with Dr Kohn and Madden.** At these clinical meetings house staff are expected to present the history and progress of each patient along with reporting results of medical investigations.

- **Tri-weekly clinical meetings:**
  - **Monday 3pm Wade Ward**
  - **Tuesday 1pm in Adolescent Medicine**
  - **Friday 11:30am in Adolescent Medicine**

  These are multi-disciplinary meetings. The following are reviewed at these meetings.
  - Assessment of fitness to participate in the physiotherapy program
  - Specific meal plan and refeeding plan for each patient: calorie prescription is based on an estimation of resting energy expenditure, determined via the Harris – Benedict, and will be gradually to sustain desired weight gain.

**Basic Outline of Ward Program:**

**The Treating Team**

The Eating Disorder Program is supported by a multi-disciplinary team which includes, Nurses, Dieticians, Physiotherapists, Artists, Occupational Therapists, Physicians, Psychiatrists, Psychologists, Family Therapists, Teachers and Social Workers.

**Medical Team:** Lead by Adolescent Physician Dr Kohn, with a registrar and resident. This team is responsible for day to day medical management, performing regular physical examinations, requesting investigations, referrals and are involved in treatment plans and decisions.

**Psychiatry Team:** Lead by Adolescent Psychiatrist Dr Madden with a psychiatry registrar. This team provides psychological assessment and treatment. Psychological therapy commences following admission with the frequency of therapy based on individual patient and family needs.

**Nursing Staff:** The nursing staff are available to provide patients with support and guidance 24 hours a day. The nursing staff supervise meal and rest times and provide feedback to the team on a patient’s progress.
**Group Workers:** The group work program occurs between 2.00 – 3:30pm most weekday afternoons for all adolescents in the hospital. A team of professionals including Occupational Therapists, Clinical Nurse Consultants, Clinical Psychologists and Artists provide group activities which aim to support the experience of hospitalisation.

**Occupational Therapist:** Individual sessions are available on referral from the medical team. The OT can provide activity based interventions including relaxation therapy and stress management as well as strategies for time management that can be useful during admission and for home and school.

**Physiotherapist:** The restoration on muscle is the key element in nutritional recovery. The physiotherapist provides a program devised to support rehabilitation, muscle development and strengthening. Patients receive a booklet from the physiotherapist prior to discharge.

**School Teachers:** The Hospital School aims to stimulate and support patients through a positive educational experience which promotes psychological wellbeing and enhances the recovery process. The teachers design individual programs based on ability and level of achievement. Educational programs are developed in consultation with medical staff, therapists, hospital teachers and home school. A standard letter to support transition to their home school is provided upon discharge.

**Social Worker:** Social workers are available on request to assist with practical matters such as financial difficulties, accommodation and other matters that can assist in making the hospitalisation an easier experience for the family.

**Dietician:** The dietician meets with families prior to the introduction of gate passes, in order to provide support and guidance on re-feeding children and explain strategies to support healthy eating in order to facilitate transition to discharge from hospital.

**Chaplain:** Pastoral Care support is available for patients regardless of health, status, faith and economic or cultural background. The hospital allocates a Chaplain to be part of a ward team and the Chaplain endeavours to visit each patient and their family on a regular basis.

**Maudsley Family Therapy Team:** The Children’s Hospital at Westmead provides an innovative service to families with a child suffering from Anorexia Nervosa based on a treatment program devised at the Maudsley Hospital London. There have been a number of research trials that support the use of the model with teenagers suffering Anorexia.

The Maudsley Model of Family-Based Treatment consists of weekly outpatient appointments. A family therapist provided intensive support to help parent’s take charge of anorexia and re-feed their child in the home setting, so that they can eventually restart a normal life. Siblings also play an important role in providing emotional support during the process.

The treatment has three phases over a one year period. The first phase helps to get the child to put on weight and eat a full variety of food. The second phase helps return control back to the child once they are less involved with Anorexia. The third phase aims to help the child adjust back to family life without Anorexia. As the child and family progresses through the treatment the frequency of appointments are less frequent.

Continued medical supervision is also a vital part of the treatment. The therapist and medical staff communicate regularly about progress.
You can read more about this treatment in a book written for parents called *Help Your Teenager Beat An Eating Disorder* by J. Lock and D. Le Grange and a book written by a parent called *Eating with Your Anorectic How My Child Recovered Through Family Based Treatment and Yours Can Too* by Laura Collins.

**TIMETABLE**

<table>
<thead>
<tr>
<th>Time</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00-8:30</td>
<td>GET UP, have a SHOWER, and get DRESSED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30-9:00</td>
<td>BREAKFAST</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00-10:30</td>
<td>SCHOOL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30-11:00</td>
<td>MORNING TEA (20 mins)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00-12:00</td>
<td>PHYSIO</td>
<td>SCHOOL</td>
<td>SCHOOL</td>
<td>PHYSIO</td>
<td>SCHOOL</td>
</tr>
<tr>
<td>12:00-12:30</td>
<td>SCHOOL</td>
<td>SCHOOL</td>
<td>SCHOOL</td>
<td>SCHOOL</td>
<td>SCHOOL</td>
</tr>
<tr>
<td>12:30-1:00</td>
<td>LUNCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00-1:30</td>
<td>½ hr BED REST</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:30-2:00</td>
<td>FREE TIME</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00-3:30</td>
<td>GROUP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30-4:00</td>
<td>AFTERNOON TEA (20 min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00-5:00</td>
<td>FREE TIME</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:00-6:30</td>
<td>DINNER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:30-7:00</td>
<td>½ hr BED REST</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00-8:00</td>
<td>FREE TIME</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00-8:30</td>
<td>SUPPER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30-9:30</td>
<td>FREE TIME</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BED TIME</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- The meal times remain the same on the weekends
- Variations may occur with this timetable, especially during school holidays
- Primary school aged children return to school in the afternoon from 1:30pm to 3pm on Monday to Friday
GATEPASSES

Gate passes are designed for young people and their families to share meals before discharge to assess both the readiness to leave hospital and highlight support needs upon discharge.

INTERNAL GATE PASSES

Patient’s can leave the ward after breakfast and return before afternoon tea
OR
after morning tea and return before dinner
OR
after lunch and return before supper
(Not able to leave the hospital grounds)
HALF DAY EXTERNAL GATE PASSES
Patient’s can leave the ward and hospital after breakfast and return before afternoon tea
OR
after morning tea and return before dinner
OR
after lunch and return before supper

FULL DAY EXTERNAL GATE PASSES
Patient’s can leave the ward and hospital after breakfast and return before supper

OVERNIGHT GATE PASSES
Patient’s can leave the ward and hospital after breakfast on Saturday and return before supper on Sunday.

Special gate passes may also be considered for special occasions such as birthdays.

Discharge
Full discharge is arranged once a patient has completed their nutritional rehabilitation (ie. Reached 90% of standard body weight) and has achieved sufficient modification of their eating behaviours and psychological status to maintain their therapeutic gains at home. Earlier times for discharge or transition to partial hospitalisation maybe determined from ongoing clinical assessment.

The patient will require a blood test prior to discharge and these include:
   - Full Blood Count/Erythrocyte Sedimentation Rate/ Reticulocyte Count.
   - Electrolytes, Urea, Creatinine, Liver Function Tests, Calcium, Magnesium, Phosphorus.
   - Leutinising Hormone, Follicle Stimulating Hormone, Oestradiol
   - Thyroid Stimulating Hormone, T3-R1A, T4

A discharge summary is required to be sent to the referring GP or GP nominated by the family. Additional copies should be sent to:
   - Dr Michael Kohn, Adolescent Medicine
   - Dr Sloane Madden, Department of Psychological Medicine
   - Maudsley therapist designated
   - File CHW

Discharge information – there is a standard word document available.
   - Consulting physicians
   - Diagnosis
   - Length of admission
   - Discharge weight
   - Discharge BMI
   - Summary of treatment
   - Discharge eating plan
Research
Patients and their family will be asked to participate in research programs during the course of admission. Refusal to participate will in no way affect the care given.

- Projects initiated during 1997/9 include:
  1. Examination of bone mineral and density changes, comparing measurement of bone density by ultrasound and DEXA (dual x-ray absorptimetry) (Monique Stone).
  2. Measurement of energy expenditure with caloric loading for inpatients with AN during refeeding (Kate Kerruish).
  3. Evaluating readiness for change among adolescents with AN (Elizabeth Rieger)
  4. Epidemiology study assesses impact of culture on AN (Nerrissa SOH)

- Projects initiated during 1999/2001 include:
  1. Self concept (UXS team)
  2. Nurses attitude (Helen Malson/Lucy Ramjan)
  3. Iron study (Andrew Kennedy/Vera Schlombom)
  4. Attention, memory and learning (Deb Erickson)

- Projects initiated during 2001/present, include:
  1. EFA (Louise Majkut)
  2. Cardiac (Alex Gooi)
  3. Rewarming (Tanya Gruenewald)
  5. Family Studies (Paul Rhodes/ Andrew Wallis/ Jane Miscovic)
  6. Emotional processing (Ainslie Hatch/Jane Ho)

Eating Disorders in a Nutshell

Eating Disorders Prevalence Females 15-19
Anorexia Nervosa 0.5% 1/200
Asthma 5-10% 1/10-1/20
Diabetes 0.1% 1/1000

Anorexia Nervosa Aetiological Model

<table>
<thead>
<tr>
<th>Predisposing Factors</th>
<th>Precipitating Factors</th>
<th>Perpetuating Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>developmental</td>
<td>dietary/malnutrition</td>
</tr>
<tr>
<td>Familial</td>
<td>societal</td>
<td>identity</td>
</tr>
<tr>
<td>Cultural</td>
<td>social</td>
<td>gain</td>
</tr>
<tr>
<td>Genetic</td>
<td>hormonal</td>
<td></td>
</tr>
</tbody>
</table>
**Anorexia Nervosa**

A. Refusal to maintain body weight over a minimal normal weight for age and height, e.g. weight loss leading to maintenance of body weight 15% below that expected.; or failure to make expected weight gain during period of growth, leading to body weight 15% below that expected.

B. Intense fear of gaining weight or becoming fat, even though underweight,

C. Disturbance in the way in which one’s body weight, size or shape is experienced, e.g. the person to ‘feel fat’ even when emaciated, believes that one area of the body is ‘too fat’ even when obviously underweight.

D. In females, absence of at least three consecutive menstrual cycles when otherwise expected to occur (primary or secondary amenorrhoea). A woman is considered to have amenorrhoea if her periods occur only following hormone administration, e.g. Oestrogen.

**Bulimia Nervosa**

A. Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time).

B. A feeling of lack of control over eating behaviour during the eating binges.

C. The periods regularly engages in either self induced vomiting, use laxatives or diuretics, strict dieting or fasting, or vigorous exercise in order to prevent weight gain; occurring at least twice a week for three or more months.

D. Persistent over concern with body shape and weight.

**Differences Between Anorexia Nervosa and Bulimia Nervosa**

<table>
<thead>
<tr>
<th>Anorexia Nervosa</th>
<th>Bulimia Nervosa</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Slightly younger</td>
<td>Slightly older</td>
</tr>
<tr>
<td>2. Weight loss</td>
<td>May be of any weight; weight fluctuates</td>
</tr>
<tr>
<td>3. More obsessiona</td>
<td>More histrionic</td>
</tr>
<tr>
<td>4. Shy introverted</td>
<td>Extroverted, more social</td>
</tr>
<tr>
<td>5. Turns away from food to cope with stress</td>
<td>Turns to food to cope with stress</td>
</tr>
<tr>
<td>6. Denies illness</td>
<td>Recognises binging/purging are abnormal</td>
</tr>
<tr>
<td>7. More self control of hunger</td>
<td>Impulsive, unstable</td>
</tr>
<tr>
<td>anger and behaviour</td>
<td>Associated behaviours: stealing, drug use, sexual promiscuity</td>
</tr>
</tbody>
</table>

* 10-40% of patients with Anorexia Nervosa also have symptoms of Bulimia Nervosa
Medical Complications of Eating Disorders

BULIMIA NERVOSA

- Salivary gland enlargement
- Enamel erosion
- Esophagitis
- Arrhythmias
- Normal weight or overweight
- Blood abnormalities: electrolytes (Na, K, CO2)
- Amylase
- Callus
- Diarrhea
- Binge eating and purging

ANOREXIA NERVOSA

- Dizziness, confusion
- Dry, brittle hair
- Lanugo-type hair
- Low blood pressure, pulse, ECG voltage
- Orthostasis
- Cachexia
- Blood abnormalities: heme (WBC), glucose, cholesterol, carotene, liver function, renal
- Stool retention
- Acrocyanosis
- Loss of menses
- Muscle wasting
- Diminished DTRs
- Osteoporosis
- Dry skin
- Edema
- Growth retardation
- Hypothermia

Weight loss and malnutrition