

Internship Research Abstracts- DC Conference- Winnipeg- June 2001

A retrospective study of the nutrient adequacy on a dysphagia diet for stroke patients in the neuroscience setting at London Health Science Centre

M.E. Alexander-Dionisi, London Health Sciences Centre Internship Program, London, Ontario

Most patients who have suffered a stroke experience some swallowing impairment during some point in time after their stroke. Little research has been done on the adequacy of the dysphagic diet which is used to facilitate feeding when swallowing impairment occurs. The purpose of this study was to determine the adequacy of energy, protein and fluid provided by means of a dysphagic diet for stroke patients. A previous data set for 48 stroke patients from London Health Sciences Centre including anthropometric, biochemical and calorie counts was used for this study. Energy requirements were calculated for those 48 patients by using the Harris-Benedict Equation and including a Stress and Activity Factor of both 1.1. Protein requirements were calculated by using 1.0 g/kg body weight/day. Fluid requirements were calculated at 35 ml/kg for participants <65 years and 30 ml/kg for those ≥ 65 years. A paired t test will be conducted to determine if the dysphagia diet is adequate for the 48 participants using the calculated requirements and intake from the calorie counts. The expected results are that the dysphagia diet for these stroke patients will not meet their nutrient requirements. It is difficult to meet requirements on a dysphagia diet. The results of this study will provide some insight into the inadequacies and give direction for improving the diet.

Adolescence - a difficult stage of development for type 1 diabetics: a nationwide survey of group diabetes education programs available for adolescents

C. Anderson and M. Brennan, Dietetic Interns, Calgary Regional Health Authority, Calgary, Alberta

At a time when adolescents are acquiring a new independence, and adjusting to physical and psychological changes, diabetes adds a significant issue to cope with. Diabetic regimens are often dishonored, and consequently teens may demonstrate poor diabetic control. Previous research has shown that support groups organized outside clinic visits may help individuals to acknowledge their diabetes and decrease their sense of isolation. The purpose of this study was to develop recommendations for adolescent diabetes education in the Calgary health region based on existing diabetes education programs and support from the literature. Healthcare professionals involved in adolescent diabetes education programs across Canada were surveyed. Thirteen of twenty surveys were returned. Results indicated that individual counseling for type 1 diabetes was the primary form of support offered to adolescents. Two centres did provide group programs specifically for their adolescent population. Although group support programs were offered only in a small number of centres, the literature supports that the efficacy of such programs in improving adolescent's metabolic control. Preliminary information from this study will serve as the basis for further development of an adolescent group diabetes support program in the Calgary health region. Conducting focus groups with diabetic adolescents in Calgary may enhance the information gained from the survey, and help to determine specific needs of this metropolitan population.

Breastfeeding incidence and duration in the neonatal intensive care and special pregnancy units at Mount Sinai Hospital

P.E. Araujo, Mount Sinai Hospital, Toronto, Ontario

International research shows that breastfeeding rates among infants who are preterm, ill, low birth weight (LBW), and very low birth weight (VLBW) tend to be low. Similarly, infants born to women with postpartum complications have lower rates of breastfeeding than infants born to healthy mothers. Currently, there are no published Canadian statistics on breastfeeding rates in these high-risk populations. This paper examines breastfeeding incidence and duration in the neonatal intensive care and special pregnancy units of an urban tertiary care facility. The mothers of 149 infants (98 singleton, 24 twin, and 1 triplet) participated in a retrospective telephone survey. The survey assessed the prevalence of exclusive, partial, and token breastfeeding in hospital, at infant discharge and at 4 months postpartum. At initiation, 30.3% of infants were breastfed exclusively, 39.3% partially, and 17.9% were fed token amounts of breast milk. At infant discharge from hospital, the rate of exclusive breastfeeding increased to 43.5%, whilst partial and token breastfeeding both decreased to 32.7% and 5.4%, respectively. At four months postpartum, the rates of exclusive, partial, and token breastfeeding were 29.3%, 21.8%, and 36.3%, respectively. Results also indicated that infants who were exclusively breastfed at initiation were more likely to still be breastfeeding at 4 months postpartum than infants who were fed either partial or token amounts of breast milk. In conclusion, breastfeeding rates at MSH were higher than most international rates for this population. The increase in exclusive breastfeeding at discharge may be due to the breastfeeding support and instruction provided to mothers in-hospital. Factors that influence the breastfeeding rate at Mount Sinai Hospital will be examined in a future study.

To determine gastroenterologist's usual practices in dealing with milk allergy, and to determine if a relationship exists between the history and symptoms of cow's milk allergy and the outcome of a challenge test

H.C. Aylward and C. King-Moore, Queen Elizabeth II Health Sciences Centre Dietetic Internship Program, Halifax, Nova Scotia

An adverse clinical response to milk occurs in 2-7.5% of children. Currently, the IWK Health Centre puts these infants on a milk-free diet from the time of the first symptoms until they are one year of age when an oral milk challenge is performed. Due to the possibility of severe reactions, the challenges are done in the hospital. This process is stressful to the child and their family, as well as laborious and not cost effective to the health care institution. The objective of this research is to determine if a more effective protocol for challenge exists. Patient charts were reviewed retrospectively. Data was collected from charts of patients who had a milk challenge over the past five years. Demographics, laboratory values, original symptoms, and milk challenge outcomes were collected to determine if a relationship between history and challenge outcomes exists. Also a survey was completed by pediatric gastroenterologists in Canada to determine their usual practices when dealing with milk allergy and challenges. Fifty charts were reviewed with 35% of subjects failing the milk challenge. A preliminary review of study findings does not suggest correlation between original symptoms and challenge outcomes but statistical analysis is pending. Of the 38 questionnaires sent to the Pediatric Gastroenterologists, 37 were returned. Preliminary review of the study findings shows mixed results. Most physicians recommended an oral milk challenge be done at one year of age but there does not appear to be a consensus on whether the challenge should take place in a hospital setting. Statistical analysis is pending.

The estimation of the total folate pool produced by intestinal microorganisms in exclusively human milk fed and formula fed infants

*JD Bakish, BAsC, Dietetic Intern, LC Stefanizzi, BAsC, Dietetic Intern, Dr. D O'Connor, PhD, RD
Hospital for Sick Children, Toronto, ON*

Despite fortification of white flour and pasta products labelled enriched with folic acid, it is estimated that 68-87% of females of childbearing age will continue to have intakes below recommended levels.

There is a need to investigate alternative strategies to improve folate status. A large amount of folate excreted in the feces is synthesised in the intestine by microbes. Bacterially synthesized folate may have the potential to improve folate status by being absorbed across the large intestine, as shown by *in vitro* studies on human colonocytes and laboratory studies on rats. The purpose of our study is to determine the total folate pool produced by microorganisms in the intestine and to analyze the association between dietary folate intake of formula-fed versus breast-fed infants and folate excreted in the feces. The study population will include 10 exclusively human milk-fed and 10 exclusively formula-fed healthy term infants (1-6 months of age) and their mothers. Each mother will provide a sample of human milk or formula and a 3-day stool sample from her infant. A complete breast expression between the hours of 1300-1500 will be required for a representative sample of human milk folate. All samples will be stored in a refrigerator freezer, transported to the laboratory on ice, and kept at -70°C until analyzed. Folate content will be analyzed microbiologically using *Lactobacillus casei* following tri-enzyme treatment. We hypothesize that the folate pool produced by intestinal microbes will differ between human milk-fed and formula-fed infants because of differences in the microbial milieu in the large intestine.

Development of evaluation tools to measure nutrition knowledge and attitudes toward food of children participating in nutrition education at an after school play program

J. M. Beauchemin, Misericordia Health Centre Dietetic Internship Program, Winnipeg, Manitoba.

The purpose of this project is to develop tools that will be used in evaluating the effectiveness of nutrition education with school-aged children. The nutrition education sessions will be delivered once per month with groups of 5-10 children. A total of 20 children aged 6-12 years will receive the nutrition education as part of an after school play program. The play program takes place in a community center located in the inner city that has a high prevalence of poverty and a predominantly aboriginal population.

A registered dietitian and staff play leaders will facilitate the program. The sessions will consist of a group preparation and sharing of a nutritious snack and participation in nutrition-focused learning and activities. It is hypothesized that as a result of participating in the nutrition education program the children 1) will be able to identify the four food groups of Canada's Food Guide to Healthy Eating and foods belonging to each group 2) will have an increased willingness to eat a variety of foods and increased willingness to try new foods. Knowledge and attitudes will be determined by means of survey tools that will be administered in an interview session with each child pre and post participation in the program. The survey tools will be pre-tested before being implemented. The evaluation will determine the impact nutrition education has on children's knowledge and attitude toward foods and assist in identifying barriers to achieving healthy eating behaviors.

A retrospective chart review of patients with acute pancreatitis, looking at appropriateness of nutrition intervention.

J.E. Boston, London Health Sciences Centre, London, Ontario.

Acute pancreatitis is a hypermetabolic, hyperdynamic disease process that creates a catabolic stress state promoting a systemic inflammatory response and nutritional deterioration. Treatment of acute pancreatitis usually consists of supportive measures and may include pancreatic rest. Total parenteral nutrition (TPN) has been the standard mode of nutrition support, however, the literature now suggests that patients with acute pancreatitis receiving enteral nutrition support jejunally have less complications and incur less costs than patients receiving support via TPN. A task team at London Health Sciences Centre recommended that acute pancreatitis patients requiring pancreatic rest be assessed for enteral nutrition support via the jejunum. The purpose of this study is to determine whether patients admitted with a diagnosis of acute pancreatitis are assessed for enteral nutrition support via the jejunum, whether reasons for alternate means of nutrition support are supported by those outlined in the literature and to compare relevant outcomes between patients who were supported as per recommendations and those not. A retrospective chart review of 50 patients with acute pancreatitis will be used to determine nutrition support, the appropriateness as per recommendations, and patient outcomes. Data collection will include the following variables: mode of nutrition support, length of stay, length of ICU stay, death, multiorgan failure, sepsis, systemic infections, systemic inflammatory response syndrome, and operative intervention. Descriptive statistics (including percentages and proportions) will be used to present the results of the retrospective chart review. Results of this study will be used to determine education needs of health professionals caring for patients with acute pancreatitis.

Le rôle du soya dans la prévention et le traitement du cancer du sein

N.M. Breau, Hôpital régional Dr. Georges-L.-Dumont, Moncton, Nouveau-Brunswick

Le cancer du sein est le cancer le plus fréquent chez les femmes en Amérique du Nord. On estime que l'incidence du cancer peut être réduit de 35-40% grâce à l'alimentation. Cette revue littéraire tend à montrer le rôle du soya dans la prévention et le traitement du cancer du sein. Plusieurs études épidémiologiques ont fait un lien entre la consommation du soya et la diminution du cancer du sein chez les femmes pré ménopausées. Les seuls produits à base de soya qui bloquent efficacement les récepteurs d'œstrogènes sont ceux qui contiennent une substance appelée génistéine. On retrouve la génistéine dans le tofu, le lait de soya et dans la protéine de soya. La génistéine a des propriétés oestrogéniques ainsi qu'antioestrogéniques. L'effet oestrogénique, consiste principalement en sa capacité de se lier aux récepteurs d'œstrogènes grâce à sa configuration chimique similaire aux oestrogènes endogènes. Par contre, l'effet antioestrogénique réside dans son incapacité à activer le récepteur. La dose de soya recommandée dans la prévention du cancer du sein se situe entre 35 et 60 g. À faible dose, le soya semble activer les cellules à récepteur positif et à une dose très élevée, le corps est chargé de phytoestrogènes. Les effets bénéfiques du soya au niveau du cancer du sein chez les femmes ménopausées n'ont pas été démontrés. De plus, étant donné que le soya et le Tamoxifène (médicament oestrogénique) sont en compétition pour le récepteur- β , il n'est pas recommandé aux femmes prenant ce médicament de consommer du soya. Aucune étude ne démontre un lien entre le soya et le cancer du sein chez les femmes à haut risque d'avoir ce type de cancer. Le soya peut activer les cellules mammaires cancéreuses à récepteur positif. Cette recension des écrits a permis de mieux connaître le rôle du soya dans la prévention et le traitement du cancer du sein. Il existe beaucoup de controverse dans la littérature, d'autres études sont aussi nécessaires dans ce domaine.

Patient food service satisfaction audits: linking patient satisfaction with plate waste

L.M. Brothers and M.J. Taylor, Queen Elizabeth II Health Sciences Centre Dietetic Internship Program, Halifax, Nova Scotia

Acceptability of meals served to patients during their hospital stay has traditionally been objectively measured by two distinct methods, namely satisfaction surveys and tray audits. This research project was designed to determine the relationship between patient ratings of food service satisfaction and the amount of plate waste generated by that patient. A second objective of this study was to determine whether or not there was difference between the general menu and other menu types. The sample consisted of patients from two orthopedic units and one general medicine unit within the Halifax Infirmary site of the Queen Elizabeth II Health Sciences Centre. A trained volunteer assisted in the distribution of patient satisfaction questionnaires to the patients two hours prior to the lunch meal and in the recording of plate waste on the returned lunch trays containing completed questionnaires. Thirty-seven (37) completed patient satisfaction surveys with corresponding plate waste records were analyzed. Preliminary investigation shows no correlation ($r=0.09$) between the average satisfaction ratings and plate waste. The items correlating most highly with total plate waste were 'food tray within reach' ($r=0.26$), 'overall satisfaction' ($r=0.18$), and the cleanliness of 'trays, dishes, and cutlery' ($r=0.17$). The average satisfaction rating was 4.2 on a five-point scale. The plate waste was measured in 3 components (entree, dessert and beverage), each on five-point scale with total plate waste averaging 6.55. There was no difference in average satisfaction rating between general and other menu types. These results are consistent with previous work at other centres and seem to indicate that tray audits and satisfaction surveys measure different views of meal acceptability.

Effect of providing background information about the QEII on patient satisfaction ratings

L.L. Bryden and S. MacIntosh, Queen Elizabeth II Health Sciences Centre Dietetic Internship Program, Halifax, Nova Scotia

In today's hospitals, patient needs and expectations are increasing, while healthcare budgets and staffing are decreasing. It is imperative that routine measurements of the services provided to patients are carried out. The information obtained from satisfaction surveys helps the institution determine if the needs of patients, families and staff members are being met. The information collected from food service satisfaction surveys allows the QEII to benchmark their services with those of other institutions. The purpose of this study was to determine whether or not providing background information about the QEII affects overall patient satisfaction ratings. The sample population consisted of patients from two independent orthopaedic units. Two trained volunteers administered the satisfaction surveys to the control group, while two other trained volunteers administered the background information as well as the satisfaction surveys to the experimental group. The surveys were completed by both groups on the same day after the lunch time meal. Volunteers for both groups remained in the patient rooms until the surveys were completed. An 85% response rate was achieved with the control group and a 75% response rate was achieved with the experimental group. Using a paired t-test to analyze the data, a statistically significant difference of $p = .021$ was found between the satisfaction ratings of the two groups ($p \leq 0.05$). When the combined satisfaction ratings of both groups are compared, the experimental group did grant higher satisfaction ratings than the control group. Thus, the data collected supports the initial research hypothesis.

Assessment of the relationship between weight loss and co-morbid factors in Alzheimer's disease

H.A. Budrow and C.L. Smith, Queen Elizabeth II Health Sciences Centre Dietetic Internship Program, Halifax, Nova Scotia

Weight loss in patients with Alzheimer's Disease is slow but progressive over the course of the disease and excessive weight loss is highly predictive of mortality. In some long term care facilities, obtaining frequent weights of patients may be difficult, due to the mobility of the patients. As a result, Registered Dietitians need to develop other measures of assessment that may be predictive of nutritional status.

The purpose of this study is to determine whether there is a relationship between weight loss and other co-morbid factors such as functional ability and cognition. A convenient sample of thirty (n=30)

Alzheimer's patients who had been admitted to one ward of the Queen Elizabeth II Health Sciences Centre, Camp Hill Veterans Memorial Centre were chosen for this study. Admission weights and heights were obtained for each subject and BMI's were calculated. Interdisciplinary Reviews were completed every six months for each subject. At the time of each review the patient's weight, Berger's Severity Classification Scores (BSCS) for functional assessment and Mini Mental States Examination Scores (MMSE) for cognitive assessment were completed. This data was collected for each subject from each Interdisciplinary Review. A statistical significant correlation exists between weight and BSCS ($r = -0.384, p < .01$) and weight and MMSE ($r = .388, p < .01$). As would be expected the statistical correlation between BSCS and MMSE was much greater and also much more significant ($r = .783, p = .01$).

An assessment of the information provided to ileostomy patients at the QE II Health Sciences Center

D.J. Burns, C. Thibault, Queen Elizabeth II Health Sciences Centre Dietetic Internship Program, Halifax, Nova Scotia

Patient education guidelines are routinely presented to our clients who utilize them to make the dietary changes necessary to improve their medical condition. To ensure that these guidelines enable patients to make proper food choices, we need to ensure the accuracy of the information. This study attempts to determine if the information pertaining to diarrhea, odors, and gas in the “Nutrition Guidelines for Ileostomy” pamphlet reflects the experiences of this population. Twenty-one patients who had ileostomal surgery between January and September of 2000 were recruited to participate in a telephone questionnaire. Subjects were asked about their consumption of foods listed in the pamphlet and resulting gastrointestinal effects. Although all foods listed in the pamphlet affected at least one of the participants, many did not cause statistically significant effects. All of the foods recommended for reducing diarrhea, (peanut butter, rice, potato, pasta, oatmeal, and applesauce) were found to be helpful. Of the foods considered odor causing, asparagus, cabbage, eggs, fish, and onion were found to be problematic: dried beans, garlic and peas were not. Odor control improved with consumption of parsley and yogurt: buttermilk was not tried. Excess gas was reported after consumption of cabbage, unpeeled apples, dried peas and beans, brussel sprouts, turnip , onion, broccoli, raw vegetables, cauliflower and corn, but not after consumption of melons, green peppers, or pickles. Gas was also experienced after sucking on hard candy, drinking pop, drinking from a straw, but not after chewing gum. Problems with digestions were experienced after consuming nuts, raisins, pineapple, and popcorn. Patients could not recall other foods that caused or helped diarrhea, odor, gas or poor digestion.

Types of enteral nutrition products for adult populations in use in acute care sites across Canada.

J.J. Chorney, K.J. Hanson, Calgary Regional Health Authority Dietetic Internship, Calgary, Alberta.

Objective: To obtain data from other acute care centres regarding the types of enteral products in use. This information will be used to help benchmark the Calgary Regional Health Authority's Clinical Nutrition Services enteral formulary against that of other acute care centres. Method: A survey was developed and sent to eight acute care sites in major Canadian cities. The survey was designed to ascertain the types of enteral products in use and specific outcome measures to support the use of these products. The survey outlined a variety of disease specific situations (elemental, immune-enhancing, renal, hepatic, trauma/metabolic stress and pulmonary). The use of closed and open systems was also questioned. Results: Six of the eight surveys were returned (a response rate of 75%). The results of the survey indicate few centres are currently using closed systems for enteral product delivery. Regarding use of enteral products in disease specific situations, all sites surveyed were using an elemental formula and a renal formula, 17% were using an immune-enhancing formula, 67% were using a hepatic formula, 83% were using a trauma/metabolic product and 33% were using a pulmonary product. Conclusion: The centres surveyed are currently using a wide variety of products. There is at least one site using a product for each of the disease specific situations mentioned. However, not all centres use products specially designed for each of the subgroups. Many of the products currently being used by the sites are used in a variety of disease specific settings (i.e. Product X is used for trauma and pulmonary patients). Therefore, these results show that many different products can be used for the different patient populations.

Can Canada's Food Guide Meet the Needs of the Older Chinese Population at the Diabetes Education Centre at the University Health Network?

Kathy Cohen Conway, BAsC; Marilyn Mori, CDE, RD; Janet Madill, MSc, RD

Canada's Food Guide to Healthy Eating (CFG) is an educational tool, where the chief goal is to help individuals and populations meet recommended energy and nutrient requirements. ⁽¹⁾ The main focus of the study is to determine if CFG meets the requirements of the older Chinese population at the Diabetes Education Centre (DEC) at the University Health Network (UHN) and to assess the nutritional adequacy of this sample population. We hypothesize that CFG does not meet the needs of the older Chinese population at the DEC. A retrospective chart review was conducted of 166 Chinese clients with Type 2 diabetes mellitus who were assessed between January 1999 and November 2000, of which, 74 clients \geq 55years of age met the inclusion criteria. Data analysis will be conducted using SPSS 10.0 for Windows. Diet Analysis Plus Version 4.0 for Windows will be used for nutritional analysis. Our preliminary results indicate that 77 percent of the clients do not meet CFG for milk products and 72 percent of the clients do not meet CFG for the fruit and vegetable group. Results of the study may be applicable to other cultures. Diabetes educators and dietitians in general, will benefit from the promotion of cultural awareness and sensitivity. Further analysis is necessary.

1. Health Canada. Canada's Food Guide to Healthy Eating, 1992. Accessed March 21, 2001

Evaluation of a multicultural nutrition education class for elderly clients in a Senior Wellness Clinic

S. Colucci, Agellon, R. and Mori, M. University Health Network, Toronto, Ontario*

Elderly clients learn and retain information differently than the younger, adult population. Specific considerations are needed when teaching older adults over 55 years of age. The purpose of this study was to evaluate knowledge gain and retention in a multicultural, older adult group that attended the nutrition education class (NEC) of the Senior's Wellness Clinic at the Toronto Western Hospital, University Health Network. This study examined the English, Italian and Vietnamese Population. The program is 12 weeks in length and available in different languages, utilizing the appropriate interpreters. A single, one and a half-hour, NEC is conducted during the first week of the program. Subjects completed a 5-item questionnaire, incorporating all topics of the NEC. The questionnaire was administered at baseline, week 4 and, again at week 8 of the program. Twenty-one clients (7 English, 9 Italian and 5 Vietnamese speaking subjects) have completed baseline and follow up questionnaires consisting of 1 male and 20 females, and median age was 71 years. The preliminary findings suggest that all three groups had an overall increase in nutrition knowledge from baseline. Further analysis is needed.

Patients' perceptions of nutritional intervention prior to chemotherapy

N.L. Desrochers, Grand River Hospital Internship Program, Kitchener, Ontario

Poor nutrition is a significant risk factor in 50 to 80 % of cancer patients (Shike, 1996). According to Rivadeneira (1998), malnourished cancer patients are less responsive to chemotherapy and are less likely to benefit from treatment. Dewys (1980) also stated that malnourished cancer patients experience more complications and have a reduced survival time. Grand River Hospital offers a "Feeling Your Best During Chemotherapy" program, prior to the first chemotherapy treatment, to help newly diagnosed cancer patients cope with the disease and the treatment-related side effects. This interdisciplinary approach to patient support aims to provide the patient with a variety of information, including the nutritional management of side effects from chemotherapy. Few studies have examined the effectiveness of nutrition intervention in cancer patients. The purpose of this study was to evaluate patients' perceptions of the nutrition component of the "Feeling Your Best During Chemotherapy" program. Two focus groups were conducted with a total of 10 participants to obtain patient feedback about what was working well and which areas of the program could be improved. In order to be included in the study, participants must 1) have attended the "Feeling Your Best During Chemotherapy" program in the last 6 months and 2) had at least one course of chemotherapy. Participants identified social support provided by other patients as one of the most important benefits of attending the education session. The nutrition component of the class was thought to be helpful in managing and controlling chemotherapy-related side effects. Patients felt that attending the session prior to their first chemotherapy treatment was particularly useful as it alleviated anxieties by helping them prepare for possible future side effects. Patients felt the format of the class and pamphlets given were appropriate. In conclusion, this study provides direction for nutritional interventions prior to chemotherapy treatment.

Retrospective survey of the hospitalization, disease symptoms, and clinical outcome measures of patients with Crohn's disease who have received diet counselling from a dietitian

C. Edgecombe and M. Cutten, Queen Elizabeth II Health Sciences Centre Dietetic Internship Program, Halifax, Nova Scotia

Steroid and immunosuppressive drug therapy continues to be the prominent medical therapy in the treatment of Crohn's disease, and there has been little scientific inquiry into the potential role of diet therapy in management of the disease. In this study, the medical charts of patients with Crohn's disease were reviewed from time of diagnosis to two years thereafter. Patients were placed into two study groups on the basis of whether they did or did not receive nutrition counselling from a dietitian. Groups were compared pre and post counselling for differences in measures of symptom presentation, weight, serum albumin, and need for drug and parenteral nutrition therapy. Groups were also compared for differences in number of inpatient visits, length of inpatient visits, number of disease complications, and need for surgery during the two year follow-up period. Data is currently being collected.

Development of a food allergen awareness program for inpatients within Saskatoon District Health

K. Eilers, N. Mireau, K. Olafson, Saskatoon District Health, Saskatoon, Saskatchewan

Objective: Food allergies are an increasing problem in our society. Of primary concern is the increasing incidence of peanut allergies because of the potential for anaphylactic reactions. The purpose of this project is to develop a systematic approach within Saskatoon District Health to minimize patient and customer risk from exposure to allergens. Methodology. Current procedures for communicating and identifying patient allergies within the three acute care hospitals in SDH were examined. A survey was developed to obtain allergy identification policies and procedures from other health care facilities of similar demographics across Canada. Results. Little published literature exists on allergy policies and hospitals. Only 2 out of 5 health care facilities surveyed had documented allergy policies.

Identification of allergies on patient menus were different at all three acute care hospitals within SDH. From this data, three policies were developed. The first policy developed involves standardizing the identification of food allergies on patient menus throughout the district in order to foster a safe environment and minimize allergen exposure for patients with food allergies. The second policy minimizes patient's exposure to peanut allergens by eliminating peanut butter and nut products from patient's menus (with the exception of pre-portioned peanut butter). The third policy focuses on patient and customer responsibility to inquire about products they are unsure of and to heighten their awareness of potential food allergens. All SDH cafeterias will have access to the necessary information corresponding to food products served to food sensitive consumers. Conclusion. Although it is not feasible for the hospitals to guarantee an allergen free environment, preventative measures such as allergy policies can be implemented to minimize patient and customer risk of food allergen exposure.

Nutritional adequacy of puree diets in a long term care setting

S.E. Faulds, London Health Sciences Center, Graduate Internship Program, London, Ontario

The institutionalized elderly are a growing population with multiple health concerns. One common concern is dysphagia or difficulty swallowing. Dysphagia is a complex medical problem that is associated with two major concerns: adequate nutrition and hydration. The purpose of this research is to examine the protein, energy, fibre and fluid adequacy of a puree diet. A convenience sample of 11 patients in a long term care facility already receiving a pureed diet were chosen for this study. Chart reviews were conducted examining anthropometric and laboratory values to determine indications for existing cases of protein calorie malnutrition. Energy, protein, fibre and fluid requirements were calculated for each patient based on current weight, height, age and activity and stress levels where appropriate. Five day food intake records were completed by nursing staff feeding each resident and these results were compared with the patients individual requirements. Paired t-tests will be done on this data to determine the adequacy of protein, energy, fibre and fluid in their diets. The results are expected to indicate some degree of nutritional inadequacy for the majority of the patients. Direction on ways to improve pureed and dysphagia diets for long term care facilities residents will be suggested based on research results. The applications from this study are widespread due to the high incidence of malnutrition in the institutionalized elderly population and their expected growing numbers. Suggested changes will aim to improve the nutritional status of this population as well as improve their quality of life.

Development of a staff education tool for dysphagia

P. Fergusson, C. Magnusson & E. Poirier, Saskatoon District Health Dietetic Internship, Saskatoon, Saskatchewan.

The project objective was to increase the awareness and improve the management of dysphagia for Sherbrooke Community Centre residents by producing an educational video for staff members involved in assisting residents at mealtimes. Dysphagia can have detrimental effects on an individual's health by attributing to poor nutrition, choking and other serious problems. Forty to sixty percent of institutionalized elderly experience dysphagia but staff often does not recognize it. Sherbrooke Community Centre is an Eden Alternative, long-term care facility, with many residents living with dysphagia. Quality of life and personal management of care and risk are two important values at Sherbrooke. These values allow residents to choose liberalized diets. Liberalized diets can increase the risk for dysphagic patients so there is a responsibility to train staff about dysphagia and to minimize its risks. The making of the video required the collaboration of Sherbrooke staff, residents and the SDH dietetic interns. Interviews were conducted with staff members to determine what they felt needed to be included in the video. Though the intended use of this video was initially to educate staff about dysphagia, it could also be used to educate residents with dysphagia, their families and any volunteers that assist at mealtimes. The video was shown to a sample of staff including special care aides and dietary aides. Following the viewing, the participants were evaluated regarding their understanding of dysphagia as compared to predetermined learning objectives. Participants showed a good understanding as most the questions were answered correctly. All staff agreed that the video increased their knowledge and confidence related to dysphagia and most felt that a video is a useful learning tool.

The effects of a behavioural weight loss program on the dietary composition of obese juveniles at the Children's Exercise and Nutrition Centre

K. L. Ferrigan, S. M. Leung, L. J. Gillis, L. A. Taraba. Hamilton Health Sciences Corporation Dietetic Internship Program, Hamilton, Ontario

The effects of a behavioural weight loss program on energy, fat, carbohydrate, protein, fibre and fruit and vegetable intake were studied in a sub-set of 24 obese children from the Children Exercise and Nutrition Centre (CENC) at the Hamilton Health Sciences Corporation. The children were enrolled in the behavioural weight loss program for 1 year and their diets at baseline and completion of the program were compared. A diet history was used to gather nutrition information on the subjects. The subjects were 4 to 16 year of age and classified as obese with a BMI above the 95th percentile based on the NHANES I standardized percentile curves. Counselling was provided by the health care team at the CENC which included a Registered Dietitian providing information on improving eating habits using behavioural strategies, lifestyle changes, and motivation enhancement. Food consumption data were collected using three-day food records and analyzed using Nutritionist Five Software Version 2.0 (First Data Banks, San Bruno, CA). At one year, the obese children significantly decreased their energy and fat intake and significantly increased their carbohydrate intake when compared to their baseline intake. Their above average fibre intake was maintained. The protein intake and fruit and vegetable intake also increased, but the finding was not significant. At baseline, 25% of the children consumed at least 5 servings of fruits and vegetables per day and 1 year later this has increased to 42%. The results suggest that obese children who participated in a behavioural weight loss program experienced positive changes in eating habits.

Nutrition For Me: a nutrition education program for drug addicted women

J.C. Field, Comprehensive Dietetic Internship Program, Kingston, Frontenac and Lennox & Addington (KFL&A) Health Unit, Kingston, Ontario

The purpose of this project is to develop a nutrition education program for female clients at the KFL&A Health Unit Street Health Centre (SHC). SHC provides services for people with drug addictions. A literature review, a focus group with female clients of SHC, and a key informant interview with a dietitian experienced in addictions provided information about the needs of the women, effective educational strategies, essential components, and appropriate format for the program. The project was guided by an advisory committee comprised of a community dietitian, the supervisor of SHC, and three SHC employees (nurse practitioner, public health nurse, peer outreach worker). The goal of the Nutrition For Me program is to help the women adopt healthier eating practices in order to reduce the health risks associated with their addictions. Results suggest that the program must be interactive, sensitive to those with limited literacy, and focus on a few key messages. The program consists of three modules: eating and recovery, healthy body weights, and food budgeting. Each module includes a workbook, a guide for facilitating group discussion, and a collection of handouts to be used during regularly scheduled meetings with the women of SHC. During the meetings, the women will also prepare and eat a meal together. The program will be pilot tested with a group of women at SHC followed by a focus group to evaluate whether the program met their needs and expectations.

Addition of pea hull fibre to pureed foods for use with long term care residents

R.K. Furkalo, A.K. Kish Greer, C.D. McGladdery, Saskatoon District Health, Saskatoon, Saskatchewan.

Objectives: To develop a list of pureed foods and recipes that pea hull fibre can be added to and remain acceptable to the elderly institutionalized residents. The second objective was to compare the amount of fibre provided from an average daily intake of a diet enriched with pea hull fibre to the average daily intake of a commercially prepared pureed diet. *Methods:* 0.5 to 3.0 grams of pea hull fibre were added to a variety of foods during recipe development, incorporating various cooking methods. For each recipe there was a control sample with no added pea hull, and two other samples with different amounts of pea hull. Eleven control samples and eleven samples containing pea hull were evaluated using a taste panel of fifteen institutionalized residents. *Results:* The taste panel results indicated that the residents favored the control samples with no added pea hull, but ranked the recipes containing pea hull fibre as acceptable. The fibre analysis showed that daily fibre intake from Campbell's Pureed Foods is less than 10 g /day, whereas fibre daily intake of food enriched with pea hull is greater than 20 g/day. *Conclusion:* Some residents recognized the taste difference with addition of pea hull fibre. The results indicate that the foods enriched with pea hull were acceptable. The foods enriched with pea hull provided a significantly higher fibre content.

Extent of Malnutrition Among Children in the RHD Cystic Fibrosis Clinic

Theoni Georgacacos and Nicole Cugnet, Regina Health District Dietetic Internship Program, Regina, Saskatchewan

Currently the Regina Health District does not know the extent of malnutrition within the pediatric Cystic Fibrosis (CF) population. The Cystic Fibrosis Foundation (CFF) has established guidelines for nutritional classification and management of these patients. The purpose of this study was to identify the nutritional status of patients in the CF clinic, and to compare current nutritional therapies with the CFF guidelines. A retrospective chart review of all pediatric patients (2-18 years) in CF clinic in RHD for the last five years was conducted. Children with CF fail to grow normally, therefore growth is assessed using percent ideal body weight for height based on NCHS growth charts. A data collection tool was developed to record indicators of nutritional status such as: height, weight, percent ideal body weight for height, serum ferritin, serum albumin, and CF exacerbated hospitalizations. Data was collected for 20 subjects. Five of the 20 subjects studied had five-year averaged % IBW below 85%. According to CFF guidelines, this dictates the need for more aggressive nutritional therapies, such as supplemental tube feeds. Although two of these patients are currently receiving such treatments, three are not. Five of 20 subjects in RHD CF clinic are suffering from “nutritional failure” as established by CFF guidelines (Ramsey et al., 1992). We recommend presenting the option of enteral nutrition to patients with CF as soon as percent ideal body weight falls below 100%. In accordance with CFF guidelines, aggressive nutritional therapy is warranted for patients with percent ideal body weight less than 85%. Therefore, the 3 patients not receiving supplemental enteral nutrition should be presented with the option as soon as possible.

Use of a transitional diet to decrease the length of hospital stay for bowel surgery patients

J.A. Glavin, London Health Sciences Centre Internship Program, London, Ontario

Traditionally, patients who had bowel surgery were given nothing by mouth until bowel function returned. Typically, the first post-operative diet would be fluids then advanced to a regular as tolerated.

At that point, the patient would be discharged. In July 2000, a transitional diet was implemented at the Victoria and University campuses of the London Health Sciences Centre and at St. Joseph's Health Care London. This new diet included a combination of fluids and semi-solid foods and provided more calories and protein than the traditional diet. Changes were made based on studies which indicated a more substantial diet after surgery would help the patient to recover faster and be discharged earlier.

The purpose of this study was to determine if the recently implemented transitional diet has been tolerated by bowel surgery patients and has decreased their LOS. Patients were excluded if they were: less than 18 years, received pre or post nutritional support, required an ICU stay for two days or more, had emergency surgery, had more than one trip to the OR during the same admission or had died.

Suitable charts were identified in Medical Records and divided into six categories which were the pre and post implementation for each of the three sites. From those lists, 15 charts were randomly selected and reviewed. Data will be analyzed using descriptive statistics, averages and proportions. It is expected that results will show that the transitional diet has been well tolerated by bowel surgery patients and has reduced their LOS. If so, it is reasonable to conclude it would have the same results when given to other patients.

Food allergies and your baby – development of a resource pamphlet

T.L. Haines, Health Sciences Centre, Winnipeg, Manitoba.

Healthy Start for Mom & Me, is a community co-operative prenatal outreach program. The program reaches out to low income, isolated pregnant teens and women who may not be comfortable with traditional medical settings. It offers expectant women a chance to learn about prenatal and family health in a relaxed and friendly setting.

A common concern among new mothers is the occurrence of adverse reactions to foods in their infants.

The need for an educational resource addressing the issues surrounding infant allergies was established.

Based on the target population the objective of this project was to develop a plain language reading pamphlet that would answer common questions, regarding food allergies and infants. Scientific studies and current community resources were researched. The foods most commonly responsible for allergic reactions in children are cow's milk, eggs, peanuts, wheat and soy. Although food allergies affect only a small number of children, finding a way to prevent them or at least delay their onset is an important goal for parents and researchers alike. Avoiding the early introduction of potentially allergenic foods is the basic step in the primary prevention of food allergies in children who are at high risk. "Food Allergies & Your Baby," is a three panel double-sided pamphlet. The topics covered include; the definition of a food allergy, which food sources are common allergies in children, who is at risk of developing a food allergy, when new foods should be introduced into the diet of an allergenic infant, and how to help prevent a child from developing a food allergy. Several graphics, plenty of white space as well as a simple and fun font were used to help produce an attractive, easy to read pamphlet.

The Determinants of Hyperphosphatemia in Chronic Renal Failure Patients on Hemodialysis
Sian Hoe Cheong and Paula Arnold, Regina Health District Dietetic Internship Program, Regina, Saskatchewan

Individuals with chronic renal failure have a predisposition towards elevated levels of phosphorous due to the inability of the kidney to excrete it. The purpose of this project was to determine whether hyperphosphatemia in these patients in Regina Health District was attributed to: (a) the higher than recommended dietary intake of phosphorous; (b) the consistency and accuracy with which a patient follows the regimen of phosphate binders prescribed by a physician or other health care professionals; (c) both. Clients with high serum phosphorous (>2 mmol/L) for 3 consecutive months were selected to participate in this study. A chart review was performed on the selected patients and recorded on the Patient Information Form. Individual patient interviews were conducted using the Patient Questionnaire and Food Frequency Questionnaire (FFQ) which had been developed by the researchers. Seventeen subjects (average serum phosphorous of 2.5mmol/L) participated. Patient Questionnaires revealed that decreasing fluid intake was the most difficult dietary change. Fifteen of the 17 subjects were prescribed phosphate binders prior to the study. Six subjects were categorized as taking phosphate binders correctly, 8 incorrectly, and 3 were undetermined. Analysis of the FFQ's found 7 subjects exceeding their maximum recommended daily intake (17mg/kg/d) of dietary phosphorous. Subjects were placed into 4 categories based on the research question. Four subjects were found to have hyperphosphatemia attributed to excessive dietary intake of phosphorous; 5 were attributed to improper use of phosphate binders; 3 attributed to both factors; and 5 subjects could not be related to either factor. Therefore, hyperphosphatemia in chronic renal failure patients in the Regina Health District is largely, but not solely, due to high phosphorous intake and improper use of phosphate binders.

Adequacy of fluid intake among the elderly in a long-term care facility

L.P. Hollett, S. Varghese, Health Care Corporation of St. John's, St. John's, Newfoundland

A consecutive 3-day food and beverage intake record was utilized to determine the adequacy of fluid intake of a group of elderly, long-term residents of the Dr. Leonard A. Miller Center. It was also determined whether number and frequency of medications have an impact on fluid intake. Thirteen residents who were medically stable, non-demented, non-fluid restricted and eating-independent took part in the study. The Human Investigation Committee of the Faculty of Medicine of Memorial University of Newfoundland reviewed and approved the study. Food and fluid intake was collected through direct observation using a food intake record form developed specifically for the study and water content was analyzed using the computer program FoodPro. The number and frequency of medications were obtained from the medical record. Average daily fluid intakes were then compared statistically with three established standards using the t-test. The standards were: (1) 30mL/ kg actual body weight (2) 1mL/ kcal energy consumed and (3) 100ml/kg for the first 10kg of actual body weight, 50mL/ kg for the next 10kg, and 15mL for remaining kilograms. It was found that participants consumed adequate fluid according to all three standards. On average, approximately 1,500mL was obtained through beverage consumption and 750mL was obtained through solids. There was no significant relationship between the number and frequency of medications and actual fluid intake. Results of this study cannot be generalized to other patients of the Dr. L.A. Miller Center or to residents in other long term care facilities. More studies are needed to determine the adequacy of fluid intake among residents who are demented, eating dependent and bed ridden.

Vitamin, mineral and herbal supplementation: a study of the current practices and perceptions of dietitians in the Calgary region.

S.O. Howell, Calgary Regional Health Authority Dietetic Internship, Calgary, Alberta.

Objective: To measure the current practices and perceptions of registered dietitians regarding vitamin, mineral, and herbal supplementation to help determine if these health professionals have sufficient access to reliable information when counseling patients about supplements. *Methods:* A prospective, observational study of 105 registered dietitians practicing in the Calgary region was conducted using a self-administered questionnaire. The questionnaire consisted primarily of closed-ended questions.

Frequency distributions and measures of central tendency were used to evaluate the results of the study.

Results: Sixty-seven percent of the dietitians surveyed returned completed questionnaires. All dietitians believed they had sufficient knowledge to counsel patients regarding vitamin and mineral supplementation, however, less than one third stated that they were confident with all vitamins and minerals. Half of the dietitians believed they had sufficient knowledge regarding herbal supplements but the majority of these agreed that it depended on the herb. Two thirds of the dietitians believed that their place of employment had sufficient vitamin and mineral supplement resources while less than half believed it had adequate herbal resources. The most frequently used resources reported for information regarding supplementation were seminars, dietitians, the Internet, pharmacists, and medical journals.

Conclusions: An ample number of dietitians indicate that they do not have sufficient knowledge and resources to counsel patients regarding all forms of vitamin, mineral, and herbal supplements. Dietitians recognize that supplementation is an emerging concern that demands frequent revising to keep current and accurate. Credible resources such as databases and educational seminars regarding supplementation need to be identified, developed, and made readily available to all dietitians to facilitate accordance within the health profession, thereby promoting optimal guidance for patients.

Nutrition intervention may be helpful in treating drug-induced dyslipidemia in lung transplant patients

T. Hsieh*, N. Hambleton, J. Madill. University Health Network, Toronto, On

Use of immunosuppressive medications has been associated with dyslipidemia, which is a major risk factor for post-transplant cardiovascular disease and chronic rejection. A recent Toronto study reported that 55% of lung transplant patients become dyslipidemic at 3 months post transplant. The purpose of this study was to determine if nutrition intervention can improve lipid levels in drug-induced dyslipidemia in lung transplant patients. A retrospective chart review, of 301 patients, who had received a lung transplant between 1987 and 2000, yielded 56 patients that met the inclusion criteria. Patient's who had abnormal lipid levels pre-transplant, were on lipid lowering drugs or had insufficient data, were excluded. Base line and post nutrition intervention data including total cholesterol, LDL, HDL, TG and nutrition intake was recorded on 20 Males and 36 Females, mean age 43.7 ± 13.63 . Nutrition intervention consisted of the Step 1 National Cholesterol Education Program (NCEP) diet, which restricts total fat to less than 30 % of energy and saturated fat to less than 10 %. Data was analyzed using SPSS 10.0. Mean pre-transplant cholesterol was 4.20 ± 0.6634 ; pre intervention mean cholesterol was 6.40 ± 0.7648 and post intervention mean cholesterol was 6.03 ± 1.1025 ($p=0.0008$). Preliminary results suggest that nutrition intervention can improve lipid levels. However, further analysis is needed.

Patients perspectives on a cardiovascular nutrition intervention

K.J. Janick, Grand River Hospital Internship Program, Kitchener, Ontario

Cardiovascular disease remains the primary cause of mortality in Canada, accounting for 37% of total deaths. Dyslipidemia, or abnormal concentrations in the blood of one or more lipids, has been identified as an independent risk factor for heart disease. Diet and its effect on serum cholesterol levels have been well established as having a role in the progression of cardiovascular disease thus making dietary modification an important step in decreasing the risk for future coronary events. Grand River Hospital offers an outpatient Lipid Clinic to individuals at risk for cardiovascular events. The clinic consists of an introductory group education session and two one-on-one follow-up sessions. The clinic provides patients with education on the risk factors for cardiovascular disease, nutritional guidelines and some of the lifestyle changes that aid in preventing and managing the disease. Three focus groups and five telephone interviews were conducted with participants of the lipid class to explore their perceptions of the content and format of the clinic. Chart reviews were also conducted for descriptive purposes. In general, participants felt that the information provided at the clinic was useful and it built-upon previous knowledge. All participants reported having made some degree of diet or lifestyle changes after attending the clinic. Feedback was also provided on how to improve the content and format of the group education and follow-up sessions. In conclusion, findings of this study support the need for ongoing program evaluation.

Comparison of two methods for calculating body weights used in estimating energy and protein requirements for predialysis patients.

M.A. Knutt, D. Lynn, A. Mayhew. Nutrition and Food Services Department, The Ottawa Hospital, Civic Campus, Ottawa, Ontario.

The recent Kidney Disease Outcomes Quality Initiative (K/DOQI) clinical practice guidelines for nutrition in chronic renal failure suggest using an adjusted edema-free body weight for prescribing energy and protein intake. This adjusted weight is to be used for renal patients <95% and >115% standard body weight as determined by the National Health and Nutrition Examination Survey (NHANES) II data. A study was conducted at the Progressive Renal Insufficiency (PRI) Clinic at the Ottawa Hospital, Civic Campus comparing the method currently used in clinical practice (Method 1) to the K/DOQI guideline (Method 2). The purpose was to analyze whether the two methods resulted in significantly different calculated body weights for predialysis patients. *Method:* Thirty-eight predialysis patients were included in this prospective cross-sectional study. Elbow breadth measurements required for the K/DOQI method were taken with patients' informed consent. Calculated weights were determined for each subject using both methods. Data were analyzed using paired and student t-tests, Wilcoxon signed rank test, and graphically. *Results:* Method 2 was found to result in greater calculated weights than Method 1 ($P < 0.001$, 95% confidence limits 5.31 kg, 10.28 kg). There is a trend suggesting as the mean calculated weight increases, the difference between methods increases. *Conclusion:* There is a highly significant difference between the calculated weights determined by the K/DOQI method and the method currently used by the renal dietitian at the PRI clinic. Adoption of the K/DOQI method would have implications for the estimation of energy and protein requirements for

these patients. Further research should compare both methods to an accepted gold standard.

Efficacy of Pectin to Alleviate Diarrhea in Enterally Fed Patients

Jill Lambden and Marlene Jorgensen, Regina Health District Dietetic Internship Program, Regina, Saskatchewan

A prospective, clinical trial was designed to investigate the possible anti-diarrheal effects of fibre in selected enterally fed patients within the health district. Adult patients in selected wards receiving enteral feeds at the Regina General Hospital during the time period of February 19th to April 20th, 2001 were eligible for this study. The study had two phases. Phase one of the study determined which enterally fed patients had diarrhea. All patients in phase one experiencing diarrhea proceeded to phase two. Thirty milliliters of pectin per one litre of formula was administered to each patient who entered phase two. Frequency, consistency, and volume of stools; principal diagnosis, rate of tube feed; and medications were collected for each patient in the study. Twelve patients were included in this study. Six patients experienced diarrhea and three received pectin. Due to the small sample size no statistical analysis was performed. There are many theoretical advantages of adding fiber to the formula of enterally fed patients. Despite this, the limited sample size was not sufficient in providing the evidence needed to support this theory. On the basis of this study, the addition of pectin to enteral formula would have to be justified by further research.

The Effect of Probiotics on Diarrhea: A Systematic Review

T. Laurin, D. Frechette and A. Mayhew Nutrition and Food Department, Ottawa Hospital,

General Campus, Ottawa, Ontario

The purpose of this systematic review was to investigate the clinical evidence concerning the effects of probiotic bacteria on diarrhea in humans. A search of published literature was conducted using the computer database Medline, hand-searching two journals, and reviewing the references of articles obtained during the search. To be included in the review, each study had to examine the effects of probiotics on diarrhea and meet the following criteria: have an adult in-patient population, include more than one subject, and be a clinical study. Of the 212 potentially relevant articles generated by the search, 12 were eligible for inclusion after being independently reviewed by two individuals. Though each of the 12 studies included in the systematic review dealt with diarrhea and probiotics, the wide variety of treatments used and outcomes measured made a statistical analysis impossible. Of the 12 articles, 9 showed an effect of probiotics in the prevention or treatment of diarrhea. Six out of 9 of the randomized trials showed an effect of probiotics on diarrhea. The results of the systematic review suggested that there is a positive effect of probiotics on diarrhea. However, given the lack of well-controlled placebo-designed studies in this area, further research is warranted.

An examination of the relationship between knowledge and fear of hypoglycemia in insulin-dependent type 1 diabetics from the ambulatory endocrine metabolic unit at the university health network.

LaVallee, T; Hoffman, L; Guilar, A. University Health Network, Toronto, Ontario.

Traditionally, the philosophy of diabetes education is based on the premise that improved knowledge will lead to improved control of blood glucose. Yet, recent diabetes literature suggests that fear of hypoglycemia may also have an impact on one's ability to control blood glucose. Furthermore, it is suggested that fear of hypoglycemia may be related to factors, aside from knowledge, that impacts one's ability to achieve target glycemic control. The purpose of this study is to determine the causal relationship between knowledge of hypoglycemia and fear of hypoglycemia. A quantitative study was conducted through the distribution of a mailed questionnaire. One hundred and five subjects with type 1 diabetes who met the inclusion criteria were identified from a retrospective chart review. Knowledge was measured using the validated Diabetic Knowledge Scale (DKN). Fear was measured using the validated Hypoglycemic Fear Scale (HFS). The questionnaire also contained two open-ended questions that enabled subjects to comment on their personal experiences related to hypoglycemia. The results of our study have indicated a 50% response rate. All subjects reported at least a 60% knowledge base. Nine subjects (18%) scored between 60% and 80%, with the remainder (82%) scoring above 80%. Preliminary analysis of the data indicates no causal relationship exists between knowledge of hypoglycemia and fear of hypoglycemia. This suggests that there may be other factors, aside from knowledge, that contribute to one's fear of hypoglycemia which needs to be examined in future research.

School Division No. 1 Breakfast Program Manual & Inservice for Food Coordinators Winnipeg, Manitoba

Anna Lazeczko

Recognizing the connection between nutrition and school performance, Winnipeg School Division No. 1 has operated breakfast programs in elementary schools since the mid-1970's. Currently approximately 41 schools participate in the program. Food Coordinators, with varying the backgrounds, run the programs with the help of Nutrition Assistants. Winnipeg School Division No. 1 covers the cost of the breakfast program, but donations from community groups have been made in the past.

The Breakfast Program manual provided to each school badly needed to be updated. Working in conjunction with Manitoba Milk Producers, conducting a written survey of food coordinators and school principals was the initial step in developing a new manual. Results of the survey showed tasks performed by the food coordinators, how often they were performed and comments about the program and manual. Principals were also surveyed to identify strengths and weaknesses they felt existed in their programs. Based on the results, a new manual was developed.

The main purposes of the breakfast program are to feed hungry children and to reinforce healthy eating habits. It was felt that food coordinators need to have a basic understanding of proper nutrition to adequately meet these goals. The new manual has been designed to provide information about nutrition and Canada's Food Guide, menu planning, guidelines for implementation, food safety, ethnic foods, food intolerances and allergies, dental health and dealing with picky eaters.

The inservice to be held for food coordinators will be an opportunity to strengthen background knowledge, build and strengthen skills and it will provide participants with the opportunity to share experiences and ideas.

The Breakfast Program Manual, in addition to the inservice will serve to improve the quality of the Breakfast Program, bring consistency to programs within the school division. A new standard will be set, bringing everyone involved onto the same page.

Benefits of enteral feeding and nutrition support in head and neck cancer patients treated with radiotherapy

S. LeBlanc and B. Hopkins, Queen Elizabeth II Health Sciences Centre Dietetic Internship Program, Halifax, Nova Scotia

The purpose of this study is to examine the use and benefits of enteral feeding and nutrition support in patients with head and neck cancer receiving radiotherapy. The study objectives are to determine if enteral feeding and nutrition support has a positive impact on head and neck cancer patients receiving radiation therapy and to examine the impact of initiating enteral feeding placement on treatment regimes, nutrition and hydration, and hospital admissions/length of stay. A retrospective chart review of patients with tumors of the tongue, oral pharynx, nasopharynx and hypopharynx treated with radical radiotherapy at the Halifax site of the Nova Scotia Cancer Centre between 1995 – 1999 was conducted. Out of 240 patients identified from the Provincial Tumor Registry Database, 50 were selected at random (ten from each year). The parameters recorded and analyzed include: tumor staging; weight and weight changes; use of tobacco; dietitian involvement and interventions; delays or cessation of treatment; as well as time of tube placement and length of admission due to this procedure. Results will be analyzed using a single factor analysis of variance to determine if weight is affected by variables such as tumor staging or tobacco use. It is hypothesized that nutrition interventions and enteral feeding benefit people with head and neck cancer undergoing radiotherapy. Weight maintenance, reduction in severity of treatment-related side effects, and prevention of treatment delays or cessation may occur. Early placement of enteral feeding tubes may reduce admissions to hospital for dehydration and symptom management, or reduce number of inpatient days attributable to initiating enteral nutrition support. Further results will be available upon completion of database analysis.

Impact of CBORD Diet Office/7-day menu implementation on patient satisfaction

N.D. Lee and V. Chidambaram, Calgary Regional Dietetic Internship Program, Calgary, AB.

The objective of this study was to assess the impact of CBORD Diet Office and regional 7-day menu meal service implementation on patient satisfaction at the Peter Lougheed Centre in Calgary, AB.

Patient satisfaction was determined in three areas: (a) pre and post implementation of CBORD Diet

Office/ 7-day menu rotation, (b) variability between units during the most recent patient satisfaction

survey, and (c) comparison of patient satisfaction for long and short stay patients. Face-to-face

interviews were conducted with 113 patients using a 5-point scale rating variety, taste, temperature,

items received on trays and the appropriateness of the food provided. Data was summarized using cross

tabulations. Results indicated that patients were less satisfied with temperature of foods when

comparing pre and post implementation. However, no significant differences in variety and taste were

noted for pre and post implementation. Using a significance level of 10% deviation, 4 out of 11 units

were most unsatisfied with taste of food, followed by temperature and variety (both 3 of 11 units), then

receiving items requested (2 of 11 units). No units reported dissatisfaction with foods being appropriate

given how patients were feeling that day. Short stay patients (admitted for 7 days or less) were more

satisfied with items received, taste, and the temperature of the food than long stay patients. No

significant differences were noted in variety or foods appropriate between long stay and short stay

patients. This data identifies areas for further improvement in patient satisfaction with Diet Office and

the regional 7-day menu in the Calgary Regional Health Authority and provides baseline data for further

investigation into patient satisfaction with food and food services by unit and length of stay.

Étude de l'approche nutritionnelle utilisée auprès de la clientèle atteinte de désordres alimentaires

N.Lewis, Service de diététique, Hôpital régional Dr Georges L.-Dumont, Moncton, Nouveau-Brunswick

Les désordres alimentaires prennent de plus en plus d'ampleur au sein de la population, donc plus d'efforts doivent être déployés dans le traitement. Cette étude a pour but de prendre connaissance du traitement diététique des désordres alimentaires de divers centres hospitaliers afin de développer un protocole pour le service de diététique de l'Hôpital régional Dr Georges L.-Dumont. Un questionnaire, développé à cet effet, a été envoyé à 40 institutions du Canada. Les résultats démontrent que le traitement diététique doit être individualisé mais qu'il existe tout de même une structure de base au traitement. Premièrement, une évaluation nutritionnelle détaillée initie le traitement. Cette dernière inclut les mesures anthropométriques, l'histoire de poids, l'histoire alimentaire et les données biochimiques. Par la suite, les buts du traitement, la prescription énergétique de même que les différentes particularités du traitement sont établis afin de favoriser une prise de poids et des changements au niveau des comportements alimentaires. Les suivis auprès des patients se prolongent jusqu'à ce que le patient atteigne au moins 85-90% de son poids idéal. Comme dernier élément du traitement, les thérapies de groupe, les ateliers de cuisine et les sessions éducatives offerts sur une base individuelle semblent être très importants dans le rétablissement de ces désordres. Les thèmes pertinents à l'éducation sont l'importance d'une saine alimentation, le rôle des micro et des macronutriments dans le corps, les conséquences de la sous-alimentation, la planification de repas, la théorie du poids naturel et le métabolisme basal. Les résultats de cette étude sont très conclusifs et ont permis l'élaboration d'un protocole visant le traitement des désordres alimentaires.

Investigating the dose and time of iron supplementation in premature very low birth weight (VLBW) infants to prevent iron deficiency (ID) and improve iron status.

C.L Lozenski; D. Lee PhD.; and C. Ulrich R.D., St. Josephs Health Centre & London Health Sciences Centre, Graduate Internship Program, London, Ontario

Premature VLBW (<1500g) infants are born with inadequate iron stores and thus are at a greater risk for ID anemia.

Controversy exists in the literature as to the appropriate dose and time to begin iron supplementation. Early iron (EI) supplementation at a dose higher than current recommendations may increase the infant's iron stores preventing (ID) and the need for red blood cell (RBC) transfusions. However, early iron is thought to be associated with diseases of prematurity. The objectives of this study are to test the hypotheses that 1) a higher dose (8mg/kg/day) of (EI) supplementation will improve serum ferritin as a measure of iron status at 2 months of age, 2) will prevent ID in infants with a birth weight less than 1500g and 3) will not cause oxidative injury. Infants would be randomized in a double-blind study to one of four groups:

	Supplementation	
	Early (when enteral feeds >100mL/kg/day are tolerated)	Late (at 61 days)
Dose 8 mg/kg/day	Group 1	Group 3
4 mg/kg/day	Group 2	Group 4

The infants would then be stratified into an additional 4 groups depending on their need for blood transfusions and their source of nutrition. The following variables will be examined: Ferritin, Transferin Saturation, Transferrin Receptors, Iron, Reticulocytes, Blood count, Hemoglobin, Malondialdehyde, *o*-tyrosine, Retinopathy, Bronchopulmonary Dysplasia and Necrotizing Enterocolitis. Primary outcome variables are: 1) ferritin at 61 days and 2) the number of infants with ID. All outcome variables will be analyzed using logistic regression analysis. The results of the study will help to standardize dietary practices in various NICU's regarding provision of iron supplementation

Development of a nutrition care audit for a long term care setting

T.Lozenski, Misericordia Health Center Dietetic Internship Program, Winnipeg, Manitoba

Performance improvement and achievement of nutrition care standards are essential components to providing the highest quality of care to residents at the Misericordia Health Centre. One component of the process used to evaluate the nutritional care provided to residents is the nutrition care audit. The conversion of the Misericordia General Hospital to a facility providing long term and ambulatory care, necessitated the development of an audit tool that would appropriately evaluate the nutrition care provided to the geriatric population of the personal care home and the interim care program. The development of this tool is the purpose of this project. Consideration was given to the documentation policies and procedures that are currently in place at the center as well criteria that have been established from standards for this population. The audit tool reflects the FOCUS charting format that is used at this facility with information included in Data, Action/Plan and Response (Outcome) sections. Emphasis will be placed on collecting data from the Response (Outcome) section in order to evaluate the effectiveness of the intervention or nutritional care provided. The tool will be used in performing a concurrent chart audit and the results will be reported to the long term care program team.

The effectiveness of an IBS education class in improving dietary behavior and decreasing symptoms of IBS patients

H. MacPhee and M. Regan, Queen Elizabeth II Health Sciences Center Dietetic Internship Program, Halifax, Nova Scotia

Irritable Bowel Syndrome (IBS) is a common chronic gastrointestinal disorder that affects approximately one in five individuals of Western populations. No treatments have been found to be lastingly effective. Dietary behavior appears to play a vital role in the management of IBS. The purpose of this study is to determine if a dietitian facilitated IBS education class will increase knowledge in order to improve dietary behavior and decrease the frequency of IBS symptoms. The goal of the class is to gain an awareness of the dietary recommendations that are part of the treatment plan for IBS and to identify lifestyle modifications that may be part of the treatment plan. An experimental pre-test/post-test design was employed. Subjects (n=18) completed a self-administered questionnaire prior to the IBS class then participated in a one-month follow-up interviewer administered questionnaire over the telephone. The questionnaire provided information about the subject's eating style, food frequency data focusing on known IBS irritants as well as the frequency of GI symptoms. Data analysis was done using a paired t-test to compare pre and post measurements. Preliminary analysis shows dietary behavior scores increased by 100% ($p < .005$) and that the frequency of symptoms decreased by 30% ($p < .05$). These findings show that participants' dietary behavior improved one-month following the class as well as the link between improving dietary behavior and decreased symptoms associated with IBS. Because there are no treatments for IBS that have been found to be lastingly effective, it is important that the patient is provided with the education required to manage the disorder in order to improve quality of life.

Weaning from a ketogenic diet: A stepwise approach versus reintroduction of foods on demand

E. Magriplis, McGill University, Montreal, Quebec.

The ketogenic diet is a high fat, low protein, low carbohydrate regime (approximate ratio of 4:1:1) used to reduce or eliminate seizures in children with epilepsy. Researchers have investigated the physiological effects of this diet but not the method and effect of weaning from it. The purpose of this study was to investigate seizure frequency during dietary intervention and throughout weaning. Six patients who had been having from two seizures per week up to eight seizures per day, experienced success with the ketogenic diet treatment, with seizures being reduced to none in the best case and one a day in the worst case. After following the diet for between 19 months and 4.5 years, five of these patients, now between five and 16 years old, followed a stepwise weaning protocol, over periods varying from six to 28 weeks. The ratio of dietary fat to carbohydrate and protein was decreased gradually with the introduction of foods that were carbohydrate rich but low in concentrated sugar, timed according to individual tolerance, as manifested by the number of seizures experienced. The sixth patient (ten years old) was introduced to carbohydrate rich foods as requested. At the end of the study period, the seizure frequency experienced by patients respecting the protocol was similar to that while following the ketogenic diet. On the other hand, the patient who was weaned on demand experienced an increase in seizures. Thus, adherence to the weaning protocol maintained the diet's therapeutic effect. However, to formulate a successful weaning protocol, more studies are required to investigate the reasons for seizure breakthroughs with abrupt ketogenic weaning and the limits of tolerance with respect to the rate of introducing previously omitted foods.

Development of menu planning resource book for day nurseries

K.R. Marcoux, Comprehensive Dietetic Internship Program, Kingston, Frontenac and Lennox & Addington (KFL&A) Health Unit, Kingston, Ontario.

Menu planning guidelines are set out in the Ontario Day Nurseries Act. The objective of this project was to learn if menu-planning guidelines are being used by day nurseries in the KFL&A Health Unit area, and if not, how could the Health Unit help them comply with the Day Nurseries Act.

A literature review, survey, menu analysis, and interviews of key informants were performed to gather data. The survey determined menu-planning skills, knowledge, and preferences for receiving menu-planning information in a sample of 67 menu planners. Menu-planning skills were assessed by analyzing a 2-week menu plan that was returned with the survey. A Public Health Dietitian (PHD) and Public Health Nurse (PHN) who evaluate day nursery menus provided key information about menu planning skills of day nursery employees.

The survey, menu analysis, and key informant interviews all indicated a need to improve menu-planning skills. Respondents indicated that a resource book was the preferred method for receiving information about menu planning. A comprehensive menu-planning resource book including menu-planning materials, nutrition information, and recipes will be developed and pilot-tested with a small number of menu planners. An advisory group comprised of day nursery menu planners, a PHD, and a PHN will guide the development of the resource book. A change in menu-planning knowledge will be evaluated by a pre/post test, and menu-planning skills through menu analysis.

Development of a quality of life questionnaire module for measuring the impact of enteral feeding on head and neck cancer patients.

M.J. McCarney, BAsC, B. Lemon, RD, C. Chatalalsingh, RD, J. Ringash, MSc, MD, University Health Network, Toronto, Ontario*

Patients with head and neck cancer treated with radiation may be unable to meet their nutritional requirements. Feeding tubes are often inserted for nutritional management, however, little is known about the impact of this intervention on the quality of life. The purpose of this study is to develop a quality of life questionnaire module to measure the impact of tube feeding on head and neck cancer patients treated with radiation therapy. A pool of questions will be generated from a review of the literature and by conducting a multidisciplinary focus group with experienced health care professionals. The questions will be compiled and provided to 50 patients for their feedback. Patients with a history of head and neck cancer who had feeding tubes placed at our institution in 1999 - 2001 will be contacted in person or by telephone and asked to assess the relevance and clarity of each question and to rate its importance. The questionnaire will also provide an opportunity for patients to make further suggestions of other relevant issues. The intended result is a questionnaire module that will measure the impact of enteral feeding in the presence of head and neck cancer. This module is intended for use in conjunction with the Functional Assessment of Cancer Therapy – Head & Neck (FACT-H&N) questionnaire, a validated disease-specific quality of life questionnaire for head and neck cancer patients. In future studies, this questionnaire module will be assessed for reliability and validity, and then used to measure prospectively the impact of tube feeding on the quality of life of head and neck cancer patients

The usefulness of the standard gestational diabetic diet in controlling blood glucose levels of patients of the Ottawa Hospital diagnosed with gestational diabetes mellitus – A retrospective chart review.

J. M. McCrea, P. Long, P. Brazeau-Gravelle, A. Mayhew, Nutrition and Food Service, Ottawa Hospital, Ottawa, Ontario.

OBJECTIVE: The study was undertaken to assess the usefulness of standard dietary management in controlling blood glucose levels (BG) of gestational diabetes mellitus (GDM) patients of the Ottawa Hospital (OH). **METHODS:** Patients diagnosed with GDM between 24 and 28 weeks' gestation who received a counseling intervention in 1999, from a dietitian with the OH's high-risk unit, were selected for this review (n = 60). Data collected included maternal age, pre-gravid body mass index (BMI), ethnicity, family history of diabetes, previous GDM diagnosis, gravida, GDM diagnostic test results, gestational age at screening, length of time patients used standard dietary management, initiation of insulin treatment, and self-collected postprandial BG readings. **RESULTS:** Sixty percent (n = 36) of the patients used standard dietary management alone to control their BG between the counseling date (mean, 29 weeks' gestation) and their term delivery date. A pattern of high postprandial BG readings (≥ 8.0 mmol/L), that was not associated with a particular meal, led to insulin therapy in 40% of the patients (n = 24). The Pearson Chi-Square analysis demonstrated that advanced maternal age, pre-gravid BMI, previous GDM diagnosis and GDM diagnostic test results were not statistically significant predictors of insulin requirement. **CONCLUSIONS:** The standard GDM dietary management resulted in over half the patients in this study not requiring insulin. Further investigation is needed to identify the risk factors for insulin requirement in this population and to assess the impact of more frequent nutrition interventions.

The prevalence and type of feeding problems in autistic children

**B. McDevitt; K. Balko; R. Figueroa; T. Burden; G. Berall; D. Superina-Bell, University Health Network, Toronto, Ontario*

Background: The prevalence and type of feeding problems in autistic children are not well documented. Only two studies have documented some feeding problems within the autistic population such as lack of variety in food; refusal to eat particular foods based on texture, taste, appearance or smell; resistance to new foods or problems around meal time dynamics. This study will further document all feeding related issues experienced by autistic children.

Objective: To determine the prevalence and type of feeding problems in autistic children seen at the Child and Adolescent Health Unit (CAHU) of Toronto Western Hospital, University Health Network.

Design: This prospective study involved distributing a written survey to parents with autistic children by mail or during clinic hours. The survey consisted of validated likert scale questions and a one day usual food record. The survey addressed nutritional adequacy, social aspects of food, oral sensitivity to foods, parent's concerns and their children's eating preferences in terms of flavour, smell, texture, consistency and type of food. For the families that completed a survey and attended clinic during the study period, lab data and anthropometrics were obtained to determine if there was a relationship between eating behaviours and nutritional status.

Results: To date, a total of 48 surveys have been distributed and 11 have been returned and completed. Of the 11 returned, 10 are male children. Data analysis is pending the completion of data collection.

Conclusions: Characterizing the specific feeding problems experienced by autistic children will help professionals to direct their counseling sessions with parents and hopefully help parents deal with the difficult challenges surrounding eating for their autistic children.

Self-Reported versus Actual Weights and Heights Among Acute-Care Clients

Darci Mollerud and Shanda Lingelbach, Regina Health District Dietetic Internship Program, Regina, Saskatchewan

Weight and height are important tools in the development of a patient's nutritional care plan. In acute-care settings these values are rarely obtained through direct measurement. Instead, the values used are often taken from a patient's self-report or medical chart. In order to evaluate the accuracy of these values, the self-reported, charted and actual (measured) weights and heights of acute-care patients were compared. In addition, the clinical significance of the differences as they would impact nutritional status was determined. A total of 101 newly admitted, ambulatory acute-care patients between the ages of 18-91 participated in the study. Subjects were asked to report their weights and heights, and actual (measured) weights and heights were then taken using a standard, tested protocol. Weights and heights were also obtained from medical charts. Differences between self-reported, charted and actual measures were analyzed for statistical significance using a paired T-test. Basal energy expenditure (BEE) was calculated for each of the self-reported, charted and actual measures using the Harris Benedict equations. Differences between BEE values were determined to be of clinical significance if they yielded a value of greater than +/- 500 kilocalories. When comparing self-reported and charted heights to actual heights, differences were statistically significant ($p < 0.05$). Self-reported and charted BEE values compared to actual BEE values were significant ($p < 0.05$). Differences were not determined clinically significant when compared to the established indicator of 500 kilocalories. Based on these findings, self-reported and charted weights and heights are appropriate for use in the calculation of a patient's energy requirements. However, further study is needed to determine if these values are suitable to use for non-ambulatory patients, or those in hospital for an extended period of time.

Improving the nutrition quality of school snacks and meals: assessing the need for nutrition education.

A.L. Myers, Kingston, Frontenac, Lennox & Addington Health Unit Comprehensive Internship, Kingston, Ontario

The Food for Learning Committee (FLC) encourages the development and monitors the operation of school nutrition programs in the Hastings and Prince Edward District School Board (HPEDSB). In September 2000, the public health dietitian proposed that the FLC formally assess the need for a nutrition education intervention. The Precede-Proceed model for health promotion planning was used to guide the needs assessment. Individual interviews, a self-administered questionnaire and observation of school nutrition program coordinators were used to collect information about the programs offered in the HPEDSB. Of the 24 schools that offer a school nutrition program, only one school plans a menu. Most coordinators believed that planning a menu using Canada's Food Guide to Healthy Eating (CFGHE) would not improve the quality of their program. Two coordinators said they use "their gut" to plan nutritious snacks and meals and four others commented that planning is intuitive. Some stated their ability to offer nutritious food choices depended on the money available to the program. Since school nutrition programs have the potential to provide more than 50% of a student's daily energy intake, it is essential that they provide nutritious choices. Providing donors with a list of appropriate foods to donate, planning a menu using CFGHE and serving and storing food safely may help coordinators to provide students with adequate, acceptable, safe and healthy food choices at school. As a first step, a program to raise awareness about the importance of planning nutritious meals and snacks, and to improve confidence in using nutrition resources to plan menus will be implemented.

Adequacy of enteral feeding in the medical/surgical intensive care unit

S. De Maio and, E. Norrie, St. Michael's Hospital, Toronto, Ontario

Enteral feeding is the preferred method of nutritional support in critically ill populations. Previous studies measuring adequacy of delivery of enteral feeds in these populations have shown that patients receive anywhere from 51-90% of energy requirements. Although some of the reasons given for not achieving goal feeding volume are unavoidable (e.g. medical tests), some are avoidable (e.g. routine nursing care).

The purpose of this prospective, descriptive study is to determine the volume of enteral feeds received by patients in the medical/surgical intensive care unit (M/SICU), calculated as a percent of the volume ordered (VO) and to identify the reasons for interrupting the feed delivery. The VO and enteral product for each patient is determined by the clinical dietitian working in the area. Subjects are assessed for severity of their medical status using the Consensus Conference Guideline Scale and the Multi Organ Dysfunction Score (MODS) on a daily basis. There is currently a gap in the literature comparing the adequacy of enteral feeding in critically ill vs. non-critically ill ventilated patients. Data collection is currently ongoing, during which the following parameters are recorded on a daily basis: VO, volume and type of enteral product delivered; and reasons for interruptions in delivery of enteral feed. To date, 35 ventilated subjects have entered the study out of a target of 50. Statistical analysis of the data using SPSS software is planned. This study will serve as a basis to improve current feeding practices in the M/S ICU at St. Michael's Hospital.

Évaluer la qualité et la pertinence des prescriptions d'alimentation parentérale totale faites à l'Hôpital régional Dr Georges-L. Dumont de Moncton, NB.

M. Ouellet, Internat en diététique Hôpital régional Dr Georges-L. Dumont, Moncton, Nouveau-Brunswick.

L'alimentation parentérale totale est l'un des grands avancements de la pratique clinique largement implantée dans les milieux hospitaliers d'aujourd'hui. L'utilisation appropriée de l'APT suggère de nombreuses pistes de recherches et de standardisation. Vu les plus grands risques de complications infectieuses et le coût relatif associé à l'APT, celle-ci devrait être utilisée dans des cas très précis où l'indication est claire, préalablement étudiée et évaluée par plusieurs professionnels. Ce projet a comme objectif d'évaluer la qualité et la pertinence des prescriptions d'APT faites actuellement à l'Hôpital régional Dr Georges-L. Dumont, dans le but de mesurer l'impact d'un guide nutritionnel pour ce type d'alimentation de support. Par une étude aux dossiers rétrospective de un an, 30 cas d'APT ont été étudiés. Les diététistes ont été consultés dans 50% des cas pour une évaluation nutritionnelle et le calcul des besoins énergétiques. Les recommandations faites par les diététistes ont été suivies dans 47% des cas. Dans 20 cas sur 30, aucun phosphate n'était ajouté à la solution principale (électrolytes particulièrement impliqué dans l'état nutritionnel et relié au syndrome de la réalimentation). L'ajout de phosphates a été suggéré dans 60% des cas, presque exclusivement par les pharmaciens. De plus, il a été possible de constater que pour la période d'alimentation de transition suivant l'APT, les diététistes sont presque exclus du plan de soins, s'il y en a un. Cette recherche permet d'optimiser la standardisation des prescriptions de l'APT en soulignant les faiblesses actuelles du processus d'évaluation et de prescription d'APT. Avec l'implantation d'un guide de support nutritionnel, les diététistes seront directement impliqués dans le processus de prescription de l'APT en y jouant un rôle primordial dans un contexte interdisciplinaire.

The effectiveness of nutrition education on the fibre choices made by male spinal cord injured patients

N.J. Penney, Queen Elizabeth II Health Sciences Centre Dietetic Internship Program, Halifax, Nova Scotia.

During the constant changes in our health care system, registered dietitians strive to continue educating patients as an integral aspect of their jobs. To ensure patients are being provided with the highest standard of care and that dietitians' time is being used efficiently, it is vital to measure the effectiveness of the nutrition education methods being practiced by dietitians. The objective of this study is to measure the effectiveness of the nutrition education of spinal cord injured (SCI) patients at the Nova Scotia Rehabilitation Centre site of the Queen Elizabeth II Health Sciences Centre. Nutrition education surrounding the importance of fibre and fluid intake, is an integral part of bowel management education received by SCI patients. Four (n=4) male SCI patients between the ages of 18 to 60 years served as subjects for this study. The patients, who were first time admissions to the Nova Scotia Rehabilitation Centre, received standard nutrition counseling within the first three weeks of their stay. The number of fibre choices made by participating subjects was observed for three-day intervals pre-education, two weeks post education, and again at four weeks post-education. Subjects also completed a questionnaire designed to measure their fibre knowledge, both pre-education and two weeks post-education. Analysis of the preliminary data did not show a statistically significant difference in the number of fibre choices ($p=0.16$, $p=0.07$) nor the fibre knowledge of subjects ($p=0.22$) pre and post-education at the 5% level of significance. While not statistically significant, results thus far do show a 25% increase in the number of fibre choices made and an 18% increase in fibre knowledge during the data collection period. Further results pending.

A retrospective study of nutritional status and postoperative morbidity in pediatric patients undergoing surgery for scoliosis repair at the Hospital for Sick Children.

D. Penwarden, BAsC, Dietetic Intern, G. Courtney-Martin, MS, RD, D. O'Connor, PhD, RD, Clinical Dietetics, Hospital for Sick Children, Toronto, Ontario.

Postoperative morbidity is an on-going concern in nutritionally compromised populations. On the basis of empirical observation, there are a substantial number of sub-optimally nourished patients undergoing surgery for scoliosis repair at Hospital for Sick Children (HSC). These same patients go on to experience a number of postoperative complications. The investigators of this study hypothesize that the incidence of postoperative complications will be higher in sub-optimally nourished pediatric patients than their well-nourished counterparts undergoing surgery for scoliosis repair at HSC. **Methods** : The study consists of a retrospective review of medical records of all surgical pediatric patients who had undergone surgery for scoliosis repair at HSC from January 2000 to July 2000 (N=~60). Patients will be categorized as either well-nourished or showing evidence of sub-optimal protein-energy nutrition (SPEN) preoperatively based on the following criteria. Using Tanner-Whitehouse growth charts, weights plotting $>10^{\text{th}}$ percentile, total lymphocyte count (TLC) $>1.5\text{g/L}$, and mean corpuscular volume (MCV), hemoglobin and hematocrit levels $>$ HSC normative values will be considered positive indicators of a well-nourished patient. Using Tanner-Whitehouse growth charts, weights plotting $\leq 10^{\text{th}}$ percentile, TLC $\leq 1.5\text{g/L}$ and MCV, hemoglobin and hematocrit levels \leq HSC normative values will be considered positive indicators of SPEN and positive predictors of increased risk of postoperative morbidity. Postoperative morbidity will be assessed for a 4 month postoperative period and determined by postoperative wound infection and sepsis, as determined by a positive blood culture, wound healing, as determined by wound dehiscence, opportune infections, specifically pneumonia, and length of hospitalization greater than 7 days.

Adequacy of Calcium, Phosphorus and Vitamin D in Pre-term Infants in the NICU of the Regina Health District

**Teri Peters and Andrea Toogood, Regina Health District Dietetic Internship Program,
Regina, Saskatchewan**

The current levels of calcium, phosphorus, and vitamin D provided in feeds (TPN, breast milk, formulae, and fortifier) of low birth-weight pre-term infants in the Neonatal Intensive Care Unit (NICU) of the Regina Health District were studied (<2000grams, 35 weeks). These levels were compared to the Canadian Paediatric Society (CPS) recommendations to assess for the risk of development of osteopenia of prematurity among these infants. Sixty NICU charts of preterm infants were reviewed and calcium, phosphorus and vitamin D levels were calculated for day 7, 14, 21 and 28 of life. Infants receiving breast milk with fortifier or pre-term formula met the CPS recommendations for calcium (4.0-6.0 mmol/kg) and phosphorus (2.5-3.8 mmol/kg). At day 28, infants provided breast milk with fortifier or pre-term formula received 3.7 ± 0.7 mmol calcium/kg body weight, and 4.4 ± 0.8 mmol calcium/kg body weight respectively. On the same day, these same groups received 1.9 ± 0.6 mmol phosphorus/kg body weight, and 2.7 ± 0.4 mmol phosphorus/kg body weight respectively. TPN-containing feeds did not consistently meet the CPS recommendations for calcium and phosphorus on the days reviewed. However, since 400 IU's were automatically added to all TPN feeds, this type of feed consistently met the recommendation (400 IU) for vitamin D. In addition, breast milk with fortifier as well as pre-term formula were high in vitamin D (597.4 ± 49.6 IU/day, and 747.5 ± 100.5 IU/day) on day 28. Overall, these results suggest that infants receiving unfortified breast milk or parenteral feeds may not

consistently be receiving levels of calcium, phosphorus and vitamin D in accordance with CPS recommendations.

Development of a resource to increase dietary magnesium intake

V.K. Renn and K.L. Klippenstein, Health Sciences Centre (HSC), Winnipeg, Manitoba.

The objective of this project was to develop a plain language resource that would provide guidance for bone marrow transplant patients receiving cyclosporine therapy attempting to increase their dietary intake of magnesium. It is known that cyclosporine therapy increases renal magnesium wasting leading to hypomagnesemia and magnesium deficiency. In order to elucidate the best dietary sources of magnesium and provide suggestions for retaining and absorbing magnesium in food, it was decided that a pamphlet would be the most appropriate educational tool. A literature review was performed using MEDLINE and credible internet websites. Other health professionals, including our advisor, were also consulted. The fourth and final draft evolved from its three predecessors, which had been modified according to our advisor's suggestions. The 8½"x14" pamphlet, designed using Microsoft Publisher '98, includes an extensive list of foods categorized by food group along with serving sizes and magnesium content. The pamphlet also includes facts on magnesium, a list of Dietary Reference Intakes (DRI's) for magnesium, and tips for increasing magnesium in one's diet. The SMOG Readability Formula revealed that the final draft had met the grade 8 literacy level. A questionnaire was developed to gather feedback from health professionals and the target population regarding the pamphlet's format, literacy level, and usefulness as an educational tool. The pamphlet has met the main objective, which was to be a low literacy reading resource to help bone marrow transplant patients increase their intake of dietary magnesium. It is suggested that this pamphlet be trialed at hospitals nationwide with bone marrow transplant patients receiving cyclosporine therapy. Questionnaire feedback will be used to further improve the pamphlet for future use.

Renal bone disease risk factors and recommendations for management in a community-based hemodialysis unit.

A. Rigutto and M. Chappell, Grand River Hospital Internship Program, Kitchener, Ontario

Hyperphosphatemia occurs in 50% of patients with end-stage renal disease (ESRD) and has been implicated in the development of soft tissue and vascular calcification, and renal bone disease. The objective of the study was to determine the prevalence of risk for metastatic calcification and renal bone disease in full care hemodialysis patients in a community-based hospital. Secondary objectives include critical appraisal of the literature and development of recommendations for management of bone disease. The literature review focuses on the efficacy of the phosphate binder RenaGel, and identification of a clinically significant calcium phosphate product. A chart review of 172 hemodialysis patients looked at serum phosphorus, calcium, calcium phosphate product, and binder usage. In conclusion, 48% of the 172 patients had unacceptable serum phosphorus levels (>1.9 mmol/L) demonstrating high risk for metabolic bone disease and 24% of patients had a calcium phosphate product >5.5 mmol²/L² which was shown in the literature to be a clinically significant risk factor for metastatic calcification.

The prevalence of anemia in the adult cystic fibrosis population at St Michael's Hospital
S.R. Roop, St Michael's Hospital, Toronto, Ontario.

Careful attention to diet and nutritional supplements is routine in most cystic fibrosis (CF) centres, as poor nutritional status in CF patients is associated with increased mortality. Studies on the frequency of anemia in children with CF have found that 90% of patients have hemoglobin concentrations below the 50th percentile for age. Health care professionals at St Michael's Hospital (SMH) have indicated that anemia appears to be common among the adult CF patients but information on the prevalence of anemia in adult CF populations is lacking. The current study proposes to 1) determine the prevalence of anemia in adult CF patients at SMH, 2) to determine iron status in those subjects who are anemic 3) to determine associations between anemia and indicators of nutritional status, lung function and overall disease status in order to gain insight into possible causes of anemia. A Cross-sectional, retrospective study of a cohort of CF subjects, age > 18 years will be performed by extracting data from the CF patient database. Data collection currently in progress includes: hemoglobin concentration, ferritin, transferrin saturation, serum iron, total iron binding capacity, BMI, skinfold measurements, serum concentrations of vitamins A, D and E, parameters of pulmonary function such as FEV1 and FVC, pancreatic enzyme type and dosage, history of ileal resection and meconium ileus and CF genotype. The results of this study will contribute towards a better appreciation of the clinical significance of anemia in the adult CF population and may serve in evaluating the need for iron supplementation in this patient population.

Investigating and quantifying differences in weight and length percentiles among Tanner-Whitehouse, NCHS and CDC growth charts

K. Sherwood, BAsC, Dietetic Intern, J. Saab, RD, Dr. D. O'Connor, Ph.D., RD & D. Secker, MS, RD The Hospital for Sick Children Dietetic Internship, Toronto, Ontario

Growth charts are used as a clinical and research tool to assess nutritional status and health and well being of infants, children and adolescents. The 1966 Tanner-Whitehouse charts are used at the Hospital for Sick Children (HSC). Two other commonly used charts are the 1977 National Center for Health Statistics (NCHS) charts and the new 2000 U.S. Center for Disease Control (CDC) charts. This research will examine the differences between the three charts. The objectives are: 1) to plot weights and lengths on three different growth charts of children ≤ 24 months of age admitted under the Pediatric Medicine, Respiratory Medicine and Infectious Disease programs or attending select out-patient clinics offered by the above HSC programs, 2) to calculate and compare the mean weight and length percentiles by age using the three charts and, 3) to determine if, and how much, clinical assessments made by health professionals change when the different growth charts are used. The study will commence with an in-service for nursing staff to describe the purpose of the research and a demonstration of proper measurement technique. Lengths and weights of 538 infants (269 females and 269 males) will be collected. Infant length boards and calibrated scales will be used to obtain measurements. Paired t-tests, corrected for multiplicity, will be used to detect weight/length percentile difference between the charts at each age. This research will help to assess how the CDC charts perform in a clinical setting in comparison with the two older charts. This information will be valuable when making a decision regarding adopting the new charts at HSC.

The effect of diets high in soy isoflavones on serum prostate specific antigen levels in healthy male volunteers

J.A. Silverman, St. Michael's Hospital, Toronto, Ontario.

Prostate cancer is the second most common cause of cancer deaths in men of Western nations. Serum prostate specific antigen (PSA) levels have long been used as a reliable marker for prostate hormone activity which is positively associated with prostate cancer risk. Soy protein contains isoflavones which are strong phytoestrogens and may have effects on hormone levels, and so cancer risk. While this link has been established for breast cancer, the limited literature on soy and prostate cancer has failed to provide conclusive evidence. The objective of this study is to test the hypothesis that an increased intake of soy protein will lead to a decrease in serum PSA levels in male volunteers. Serum samples from 51 male subjects who took part in three previous studies that examined the effect of soy protein on blood lipid concentrations were analyzed for serum PSA levels. In each study, subjects were assigned to either a low fat (NCEP-2) control diet or a diet containing a specified level of soy protein-containing foods for a period of 3-4 weeks. After a washout period, each subject then completed a second phase with the alternate diet. Serum PSA levels were determined at the beginning and end of each study phase using standard immunoassay techniques. All data for this study has been collected and is in the process of statistical analysis. The data from each study group will be analyzed separately before being pooled to study the overall effect of soy protein on serum PSA levels. This study will contribute to the limited body of literature involving the effect of soy protein on prostate cancer risk.

The effects of individual dietary counseling on the eating habits of patients with dyslipidemia

L. Skromeda, M. Graham, A. Mayhew, Family Medicine Centre, The Ottawa Hospital, Civic Campus, Ottawa, Ontario.*

The purpose of this study was to determine whether or not individual dietary counseling by a Registered Dietitian helps patients with dyslipidemia change their eating habits. Subjects completed a questionnaire about their eating habits, titled “Where are the Hidden Fats in Your Food? Step by Step...How to Test Your Diet and Improve It”, a few minutes before their one-hour individual appointment with the dietitian. A total score was derived from the answers to the 30 questions to let the subject know whether they needed to make changes in their diet. The questionnaire was created and validated in 1999 with the support of Sandoz Canada Incorporated and was utilized by the Heart and Stroke Foundation of Canada.

During the appointment, the dietitian recorded the results of the subject’s questionnaire and took a 24-hour food recall and a food frequency survey. She then gave each subject individualized recommendations on how to improve their diet to help lower their cholesterol (e.g. eating less saturated and trans fats, increasing fibre, eating more fish, etc). Approximately four weeks after their appointment, each subject was telephoned by a dietetic intern who administered the same eating habits questionnaire over the phone. The pre-counseling score was compared to the four week follow-up score to see if any changes in eating habits had been made. This data is currently being collected on 10 subjects. Results will be reported when available. The results will provide information on whether current diet teaching methods are helpful to patients with dyslipidemia.

Assessing the interrater reliability of the food diary variable scoring scale

M.D. Smith and R.A. Sutherland, Queen Elizabeth II Health Sciences Centre Dietetic Internship Program, Halifax Nova Scotia

Patients of the Eating Disorder Clinic at the Queen Elizabeth II Health Sciences Centre complete a food diary as part of treatment. This food diary is assessed by health professionals in the clinic using a Food Diary Variable Scoring Scale (FDVSS) to determine patient progress. The FDVSS is continuously used by different health professionals with a variety of educational backgrounds. Therefore it is important that the FDVSS has a high level of interrater reliability. The aim of this study was to assess the interrater reliability of the FDVSS. Three sample food diaries were selected from patient records in the QEII Health Sciences Centre Eating Disorders Clinic. Packages including a letter outlining study, FDVSS scoring guide, standard recording form, Canada's Food Guide for Healthy Eating and 3 sample diary days to be scored were distributed to health professionals at inpatient rounds (n=6). Subjects included: occupational therapist, social worker, psychologist, psychiatrist, occupational therapy student and psychiatric resident. Subjects were given 2 days to score and return scoring forms. Interrater reliability was assessed using two-way ANOVA for correlation. Results pending.

Public perception on newly proposed Canadian nutrition labelling policy

V.M. Smith, A. Mayhew, L. Corriveau, The Ottawa Hospital Dietetic Internship Program, Ottawa, Ontario.

A new nutrition labelling policy is being proposed in Canada and in preparation for the new policy, educational materials need to be developed. The purpose of this study is to identify the current level of knowledge and acceptance of nutrition labelling among hospital employees and visitors. A survey was developed from pre-existing and new questions to determine whether subjects perceived the newly proposed label to be easily read, useful and informative. Subjects' perceptions regarding their understanding of the nutritional concepts associated with the proposed label were also tested.

Volunteer subjects who completed the survey included hospital employees and visitors to two campus cafeterias at The Ottawa Hospital (n=57). A second sampling of Dietetics staff included dietitians, diet technicians and dietetic interns employed by the hospital (n=40). Collected data were entered into a spreadsheet, frequencies were computed and Chi-square tests ($p < .05$) were performed on the numeric data. Secondary analyses were completed to compare Dietetics staff with other participants because it was felt that the specialized staff may use nutrition labelling differently than others. Of 97 subjects, 21% liked the new label design a lot compared with 2% who did not like it at all; 29% reported finding information easily versus 2% who found it very difficult to find information; and 63% found it easy to read. Nutritional terms were reported as well understood by the majority of subjects. 93% of subjects expect to use the new label. The secondary analyses are currently being completed. Overall, preliminary results show the newly proposed nutrition label was well accepted with minimal problems identified for further education. Additional research is recommended to corroborate these findings.

Development of a nutrition education brochure to increase dietary intakes of omega 3 fatty acids in low-income pregnant and lactating women

E. St.Godard & D. Sharma, Health Sciences Center, Winnipeg, Manitoba

Research shows that an adequate intake of essential fatty acids, particularly omega-3 fatty acids, is crucial during pregnancy and lactation for optimal brain and visual development and growth. The diets of low-income pregnant women have been found to be lacking in omega-3 fatty acids as a result of lower fish consumption and a high intake of Trans fatty acids from processed foods. A plain-language nutrition education brochure was developed for low-income pregnant and lactating women who attend Healthy Start for Mom & Me (a community nutrition program in Winnipeg, Manitoba) to help increase the omega-3 fatty acid content of their diet. Many women who attend Healthy Start are teens with lower literacy skills and low socio-economic status. A draft version of the brochure was focus-tested with women at Healthy Start and as a result, changes were made to the wording and content. The two-sided 8½" x11" brochure provides the reader with a brief explanation of why eating too many "fatty" foods is a concern. It has practical tips on how to avoid and decrease convenience foods in the diet by encouraging the use of alternate foods, which are widely available and moderately priced. Suggested foods and snacks are also good sources of omega-3 fatty acids. A 14-point font, use of bullets, graphics and white space makes the material visually attractive and easy to read. The brochure has a grade 6 reading level using the SMOG Readability Formula. The brochure requires further focus-testing to ensure that the messages are clear. Once testing is completed, the brochure can be circulated to other centers in Winnipeg that work with this target group.

Characteristic eating patterns of alzheimer's patients

L.M. Stacey, S. Varghese, Health Care Corporation of St. John's Internship Program, St. John's, NF

A three-day consecutive food intake record was utilized to determine the characteristic eating patterns of Alzheimer's patients admitted to the dementia care unit of the Dr. Leonard A Miller Centre. The objectives of this study were to determine 1) the average energy and macronutrient intakes 2) the variability in intake between meals and snacks 3) the association between weight status and energy consumption. Sixteen participants who were medically stable and eating independent took part in the study. Food intake was collected through direct observation using a food intake record form developed specifically for this study. The human Investigations Committee of the Faculty of Medicine of Memorial University of Newfoundland reviewed and approved the study. The results revealed that the majority (81 %) of participants consumed more calories than their calculated requirements based on the Harris Benedict Equation. Intake was variable throughout the course of the day, with dinner contributing more carbohydrate calories, lunch providing more protein calories, and breakfast providing more fat calories. Approximately, 20% of calories came from protein, 30% from fat, and 50% of calories from carbohydrate as recommended by Health Canada. The Chi Square analysis indicated that there was no association between weight status and meeting energy requirements. The results of this study cannot be generalized to Alzheimer's patients living in the community or to other long-term care institutions. More studies are needed to determine the impact of the severity of the disease and weight changes.

Is pretreatment nutritional intake a predictor of outcome in patients with eating disorders?

L.G.Staresinic*, L. Hoffman, S. Haines, S. Sonnenberg, University Health Network, Toronto, Ontario

Abnormal nutritional status and dietary patterns characterize eating disorders including anorexia nervosa and bulimia nervosa. The University Health Network (UHN) offers two intensive eating disorder programs: Inpatient Eating Disorder Program (IEDP) and Day Hospital Program (DHP) as well as a follow-up program (Track #1). To date no research exists examining pretreatment nutritional intake as a predictor of treatment outcome. The purpose of this study is to determine if pretreatment nutritional intake, measured by the percentage of energy requirements met, is a predictor of outcome in patients admitted to IEDP and DHP. A retrospective chart review was conducted on forty females to gather pre-treatment and outcome data. Pre-treatment data was collected from dietitians' admission assessment from IEDP and DHP. Outcome measures were obtained from Track #1 data. Patients were divided into three groups: anorexia nervosa – restricting subtype (AN-R); anorexia nervosa – binge/purging subtype (AN-B/P); and bulimia nervosa – binge/purging subtype (BN). The percentage of energy requirements met pretreatment for AN-R, AN-B/P and BN will be compared to outcomes specific to each eating disorder subtype. BN outcomes include: change in binges, vomits, and energy requirements met. AN-B/P outcomes include: change in binges, vomits, energy requirements met and body mass index (BMI). AN-R outcomes include the change in energy requirements met and BMI. Data was collected on forty female patients aged 17-54 years. Analysis of outcome data is pending. The results derived from this study will help to determine if pretreatment nutritional intake is a predictor outcome in eating disorder patients admitted to the intensive eating disorder program at UHN. The data will also help to identify differences in pretreatment intake and outcome between eating disorder subgroups.

Physical Barriers to Eating as Contributors to Malnutrition in Acutely Ill

Hospitalized Patients

L.J. Swaré¹, E. MacLennan², K. Lechelt². (¹Capital Health Dietetic Internship Program, Edmonton, AB, ²Royal Alexandra Hospital, Edmonton, AB.)

Malnutrition can lead to increased length of stay, complications and mortality. Although these links are well understood, malnutrition in hospitalized patients remains prevalent. A cross-sectional survey was done to assess the physical barriers to eating that may lead to low nutrient intake and thereby contribute to malnutrition in acutely ill internal medicine patients. A chart review, calorie count and a 19-question survey using a structured interview approach, was performed. All of the 39 patients in a 2-week period that met the inclusion criteria for the study agreed to the survey. Half of the patients had poor oral intake, indicated by consuming less than 75% of their meal tray. Patients whose intakes were poor, were compared with patients who had good oral intakes. Poor eaters had an increased difficulty with accessing the meal tray, holding utensils, holding a glass, cutting with a knife and fork and suffered more tremors than the good eaters. Poor eaters were also more likely to wear dentures and have pain or difficulty with their dentures. As well, the poor eaters experienced fatigue from eating more often and were overall more dependent at meal times. Both patient groups showed a high percentage of difficulty opening packages. In conclusion, it is determined that proper nutrition screening and surveillance on internal medicine and geriatric patient care units is important in identifying patients who are at risk for malnutrition. Further, use of a finger food menu, small frequent meals, adequate tray set up and package opening may help patients to access their meals and consume adequate calories.

The prevalence of osteopenia and osteoporosis in patients with inflammatory bowel disease determined by dual-energy x-ray absorptiometry.

**S.K. Snider, T.G. Muto, S. Hansen, L. Taraba, Hamilton Health Sciences Corporation
Dietetic Internship Program, Hamilton, Ontario.**

This study was conducted to determine the prevalence of osteopenia and osteoporosis in adult patients with Crohn's Disease and Ulcerative Colitis attending a Gastrointestinal Outpatient Clinic at the Hamilton Health Sciences Corporation. We further examined the potential risk differences between Crohn's Disease and Ulcerative Colitis in the development of osteopenia or osteoporosis. A retrospective chart review was conducted on 25 subjects, 21 patients with Crohn's Disease and 4 with Ulcerative Colitis. Data collection included lumbar spine and mean hip bone density measurements which were assessed by dual energy x-ray absorptiometry. Laboratory evaluations included serum albumin. Age, gender, corticosteroid and bisphosphonate usage, and the duration of disease were also included in analysis. Analysis of data, results and conclusions are still pending.

Do maternal avoidance diets during pregnancy and lactation play a role in the prevention of allergy?

Kathryn Syposh and Tamar Kafka, Dietetic Interns, Health Sciences Centre, Winnipeg

Dietitians at Healthy Start For Mom And Me, a pre/post-natal community outreach program in Winnipeg, Manitoba, wanted to update themselves on the role of maternal avoidance diets in infant allergy prevention, so that they could give program participants a clear message on this issue. A literature search was completed on maternal avoidance diets for allergy prevention. The pediatric inpatient and outpatient dietitians at the Winnipeg Health Sciences Centre as well as the dietitian and the head researcher at the Allergy Nutrition Research Program in Vancouver were interviewed about their views on maternal avoidance diets and asked for suggestions for resources. The results of this review demonstrate that maternal avoidance diets during pregnancy are contraindicated as there is a lack of conclusive evidence that these diets prevent in-utero sensitization. Breast milk can contain food allergens from the mother's diet, which may have a role in the development of food allergy in the high-risk infant. Maternal avoidance diets during lactation can only serve as preliminary recommendations for highly motivated parents of infants at high-risk for the development of allergic disease until further research is completed, whereby recommendations may be revised. Women who choose avoidance diets should be educated about food substitutes. Comprehensive recommendations were established and two resources were developed: a layperson pamphlet and a resource sheet for dietitians. The layperson pamphlet addresses basic information on the prevention of infant food allergy. The resource sheet focuses on recommendations for maternal avoidance diets in the prevention of infant allergy. Drafts of both resources were submitted to dietitians at Healthy Start and adjustments made according to their feedback. Future recommendations for both resources include distribution to other pre- /post-natal programs and pediatric dietitians throughout Canada.

Association between standard measures of nutritional status and incidence of febrile neutropenia and infection in paediatric patients with non-brain solid tumours.

C. Tolia, A. El-Hawary RD, and L. Jardine MD, London Health Sciences Centre and Children's Hospital of Western Ontario, Graduate Internship Program, London, Ontario.

Nutritional assessment and early detection of nutritional deficits in children with cancer is a necessary practice because malnutrition has been associated with decreased chemotherapy tolerance, increased susceptibility to infections and poor prognosis. Paediatric patients with solid tumours may experience episodes of febrile neutropenia during intensive treatment of their malignancies, and neutropenia is the single most important factor predisposing them to infection. This study will address some of the ways in which standard nutritional assessment parameters correlate to development of febrile neutropenia and infection in paediatric patients with non-brain solid tumours undergoing treatment. In retrospective chart review of these patients at Children's Hospital of Western Ontario over 36 months, standardized anthropometric and biochemical data will be statistically analyzed via correlation and regression analyses with fever- and infection-related data. Depending on the data set it may be possible to comment on whether initiation of nutrition support in these patients was related to changes in nutritional status and incidence/duration of these complications. The results of this study would provide a better understanding of whether a nutritionally high-risk patient could be at risk for the increased incidence and/or duration of these complications. The significant correlations and trends found will help in the development of a pilot study to evaluate when and where early preventative or therapeutic nutritional strategies could possibly improve these patients' nutritional status, decrease their time with febrile neutropenia, and affect overall prognosis.

Determining if waist-to-hip ratio is a valid method for assessing obesity in a pediatric population

I. Toombs, S. Psiuk, L. Gillis, and L. Taraba, Hamilton Health Sciences Corporation Dietetic Internship Program, Hamilton, Ontario

The purpose of this study was to determine if the waist-to-hip ratio is a valid measurement to assess obesity in a pediatric population, and to assess the effects of gender, age, Tanner stage and height on an individual's waist-to-hip ratio. The subjects were recruited from the Children's Exercise and Nutrition Center (CENC) at Hamilton Health Sciences Corporation (HHSC). All subjects had a body mass index greater than or equal to the 95th percentile of the reference values for age and sex and were between the ages of four and sixteen. Waist and hip measurements and Bioelectrical Impedance analysis (BIA) were completed on all subjects. A subset of the subjects also underwent Under Water Weighing (UWW). Age, height, Tanner stage and gender of subjects was also recorded. A regression analysis will be performed using waist-to-hip ratio and percent body fat values obtained by UWW and BIA, to determine the validity of the waist-to-hip ratio measurement as an indicator of pediatric obesity. Additionally, a multiple regression analysis will be used to determine how each of gender, age, Tanner stage and height affect an individual's waist-to-hip ratio. Results and conclusions are pending.

Healthy eating intervention with students in grade 10 at a local secondary school

L.Y. Vinette, Kingston, Frontenac and Lennox & Addington Health Unit, Kingston, Ontario.

Healthy eating in adolescence is important to meet the changing nutrition needs during this period as well as decreasing the risk of developing chronic diseases such as cancer, coronary heart disease and stroke, in adulthood. However, adolescent behavior, which is largely influenced by peer pressures and the desire to fit social norms, may not be conducive to meeting these needs. A healthy eating event in school can help adolescents become more informed on how to become and stay healthy. The curriculum for grade 10 students includes objectives for healthy eating in adolescence. The Health Unit and the teachers and students at a local secondary school collaborated to promote healthy eating among adolescents. The objective included increasing the proportion of students in grade 10 who make healthier food choices more often, who develop and maintain a positive body image and who participate in regular physical activity. Interviews with teachers and public health nurses, a survey of grade 10 students, and a literature search were used to identify key issues around healthy eating, body image and physical activity among adolescents. The information collected in the needs assessment was used to plan an event consisting of interactive stations including a healthy eating trivia, how to make healthier choices in fast food restaurants, and a display about body image and advertising. The event was pilot tested with 43 students. At the completion of the event, a process evaluation was given to the students. The students responded positively to the event and provided suggestions for making modifications. The event will be offered to all grade 10 students in local secondary schools in the coming year.

Enteral nutrition support in the critically ill, a retrospective study

T. Williamson*, A. Mayhew, C. Golka, The Ottawa Hospital, Civic Campus, Ottawa, Ontario.

Objective: To describe the current enteral nutrition support (ENS) practices for critically ill patients and to identify what proportion of feeds are stopped because of gastric residuals.

Design: A retrospective, cohort, chart review study. Setting: The Ottawa Hospital, Civic Campus, Intensive Care Unit (ICU). Subjects and Methods: Patient's charts were reviewed if they were started on ENS, if they were greater than 18 years of age, and if they were in the ICU for greater than three days. Patients excluded were those on total parenteral nutrition (TPN), those who were admitted for an abdominal aortic aneurysm elective surgery or for an esophagectomy. Charts were obtained through The Ottawa Hospital Medical Records Department following approval of this study by The Ottawa Hospital Research Ethics Board. Results: There were 48 patients enrolled in this study. On average, patients were started on ENS 2.08 days from their ICU admission date. Patients reached their goal rate an average of 2.96 days from the initiation of their feeds and 5.04 days from the date of their ICU admission. Twenty-one percent of the subjects had the presence of gastric residuals and 80% of those patients' feeds were stopped or discontinued at gastric residual levels below 200cc. Furthermore, there was a statistically significant association between the presence of gastric residuals and how soon a patient was started on ENS ($p < 0.042$) and how long it took to reach their goal rate from the date of admission ($p < 0.020$). The feeding protocol was interrupted for 44% of the subjects for procedures and for 33% of the subjects because of tube feed complications. Conclusions: Early ENS practices are implemented in the ICU, as reflected by the literature. Tube feedings are well tolerated in the majority of patients. A prospective study would provide further details on feeding practices which could positively affect patient outcomes.

Is my baby constipated? – development of a resource for parents.

C.L. Willstrop, Health Sciences Centre Dietetic Internship Program, Winnipeg, Manitoba.

New parents are often concerned as to whether or not their baby is constipated. Many parents have their own preconceived notions as to what the normal bowel habits of babies are. This knowledge is often obtained from child-care books or passed down from generation to generation and is not always accurate. Parents can become anxious when their baby's stool patterns do not match these expectations. Presently, there are not many resources that address infant constipation in an accurate and simple manner. The dietitians at Healthy Start For Mom & Me, a community based parental outreach program, expressed the need for a resource on infants and constipation in order to relieve the anxiety of new parents. The objective of this project was to develop an easy to read, informative pamphlet that defines constipation, its causes, what the normal stool patterns of breastfed and formula fed babies are, and what to do if your infant is constipated. The pamphlet was developed using scientific research studies, review articles and information gathered through discussions with child healthcare professionals. After several draft versions, the pamphlet was finalized and tested before a focus group of young mothers. It is recommended that this resource be distributed to other facilities and communities in order to educate parents and reduce the anxiety they may have regarding infant stool habits.

Waste audits are not accurate predictors of meal satisfaction

S. Wollin, McGill University

The objective of this study was to establish if food waste audits are satisfactory predictors of meal acceptability in long-term care facilities. Data regarding meal acceptability were collected through the use of questionnaires addressing ten aspects about the foods offered, and the foodservice department. Waste audits were performed at the same meal. Study candidates had to be able to understand the questions and communicate their views clearly in order to participate. The questionnaire was successfully completed by 12 residents living at the facility. This small sample size is due to decreased communication skills exhibited throughout the population. Fifty-eight percent of residents found the flavor of the food to be satisfactory, 92% stated food was served either over/under-cooked, and only 50% of residents were pleased with the menu selections offered. The waste audit, on the other hand, established that the residents were consuming the meals provided to them regardless of their dissatisfaction with flavor, preparation, or menu selection. The application for such results is far reaching. When food service management wishes to know if a menu item is satisfactory, examining waste from a meal service can provide needed evidence. However, these results show that in long-term care facilities where clients are living as permanent residents, meal satisfaction is not directly related to meal wastage. The reasons for such results are multifactorial, ranging residents' perceptions of the need to eat to maintain health, to being from a generation that does not believe in unnecessary waste. Therefore, in the quest to optimize quality of life for residents it is essential that dietary satisfaction be "food for thought", through the use of meal acceptability questionnaires, not simply the examination of food wastage.

The relationship between body fat mass, functional capacity and cardiac function in congestive heart failure patients

J.M.W. Wong, Hons.BSc, Mount Sinai Hospital, Comprehensive Dietetic Internship Program, Toronto, Ontario.

Weight gain is a known symptom of congestive heart failure (CHF). However, the effect of weight gain on the management and prognosis of CHF is unknown. Management is primarily pharmacotherapy and in some cases, heart transplant. Although patients may require a sodium-restriction, weight maintenance programs of diet and exercise are uncommon. Mortality rate is 50% within two years. It is important to understand the relationship of body mass in CHF, in particular, to functional capacity and cardiac function, which are independent markers of survival in CHF. Therefore, the objective in this study was to describe the relationship of body mass to functional capacity and cardiac function in CHF patients at Mount Sinai Hospital. The body fat mass was analyzed using skinfold measurements, waist circumference and bioelectric impedance spectroscopy (BIS) (n=19). The mean body fats (% BF) were $37.0 \pm 1.4 \%$, $37.8 \pm 1.3 \%$ and $30.0 \pm 3.2\%$, respectively. Functional capacity, determined by 6-minute walk test, found mean distance walked 344.7 ± 17.5 m. Cardiac function, measured by echocardiogram, revealed the majority with LV grade IV with LVDD of 63.8 ± 2.7 mmHg, LVSD 51.7 ± 4.4 mmHg and RVSP 45.9 ± 4.8 mmHg. The relationship between body fat (%BF) with functional capacity and cardiac function was non-significant. However, stratification of subjects based on BMI found those with higher BMI had lower functional capacity (BMI \geq to 27, mean= 321.6 ± 29.8 m; BMI $<$ 27, mean= 359.4 ± 21.4 m). It was observed that increased body fat (% BF) lead to decreased functional capacity. In conclusion, weight management in CHF may be warranted to improve functional capacity and inevitably survival.

Review of nutrition information on the Calgary Regional Health Authority “Your Health” web site

P. Woo, Calgary Regional Health Authority, Calgary, Alberta.

This study investigated the use of the Calgary Regional Health Authority (CRHA) “Your Health” web site by clinical dietitians and their opinions on the accuracy and usefulness of the nutrition information on the web site. An e-mail survey was chosen as the method to gather information. A total of seventy-seven clinical dietitians working for the CRHA in three acute hospitals and one community site were asked to provide feedback. A survey with five open and close-ended questions was compiled, peer reviewed and field tested on two dietitians. Participating dietitians were asked to review nutrition information under three major topics (General Nutrition Topics, About Weight, and Dietary Fat) within the Healthy Eating section of the web site. Twenty-four dietitians completed the survey. 54.2% of the respondents had never browsed the Healthy Eating section of the web site in the past six months. All respondents either strongly agreed or agreed that the web site was easy to navigate. 16.7% and 0.0% of dietitians felt that the information on About Weight and Dietary Fat was inconsistent with the current nutrition recommendations respectively. As many dietitians (33.3%) agreed that the information on the General Nutrition Topics was consistent with the current nutrition recommendations as there were who disagreed (33.3%). All respondents felt they would recommend patients or clients to use the web site. Above results showed that General Nutrition Topics and About Weight under the Health Eating Section of the web site needed revision to reflect the current nutrition recommendations. It might be valuable to increase the awareness of the nutrition information provided on the “Your Health” web site among clinical dietitians as well as the general public.

Infant cereal: the first solid food for your baby

C. E. Woodrow, Health Sciences Centre, Winnipeg, Manitoba.

BACKGROUND: Healthy Start for Mom & Me is a prenatal and postnatal outreach initiative for low-income women and offers drop-in programs to 8 community sites in Winnipeg. Healthy Start requested a resource on Infant Cereal for participants in their postnatal Baby Steps program. **OBJECTIVE:** To provide a pamphlet with sufficient information on Infant Cereal in an easy to follow format using plain language. **METHODS:** A list was made of the information that Healthy Start wanted included in their pamphlet on Infant Cereal. Information was then collected using the Internet and research articles. Information was also accessed on how to format and write pamphlets for teaching adults. Illustrations were chosen using Print Shop software to complement the written material. Participants and team members of the Baby Steps program reviewed a draft version of the pamphlet. Comments and suggestions were incorporated into the final version. The SMOG Formula was used to assess the readability of the pamphlet. **RESULTS:** A plain language pamphlet was developed in an easy to follow format using a question answer design. The reading level of the pamphlet was Grade 7, which is appropriate for teaching adults. The pamphlet was formatted on letter size paper and the orientation is landscape. The pamphlet is two-sided and has three columns. An introductory paragraph was provided and there are seven illustrations. Information was provided on Infant Cereal including when it could be introduced, the different types of cereal and how it can be mixed. Guidelines were also included on how much to feed a baby and tips for parents. **CONCLUSIONS:** The pamphlet provides sufficient information on Infant Cereals and is an appropriate resource for participants in the Baby Steps program at Healthy Start for Mom & Me.

Adequacy of fluid intake in adult patients with dysphagia receiving honey thickened fluids within the Health Care Corporation of St. John's

G.M. Yetman, Health Care Corporation of St. John's Internship Program. St. John's, NF

Dysphagia, difficult swallowing, is a clinical problem frequently encountered in patients with brain trauma, cerebrovascular accidents, Parkinson's disease, and cerebral palsy. These patients are at an increased risk of aspiration pneumonia, which can be life threatening. Thickened fluids are often provided to patients who show signs of aspirating regular fluids. The purpose of this study was to 1) determine the adequacy of fluid intake of adult patients in the Health Care Corporation of St. John's (HCCSJ) with dysphagia receiving honey thickened fluids and 2) identify potential barriers affecting their fluid intake. This pilot study consisted of 11 adult dysphagic patients within the HCCSJ who had been prescribed honey thickened liquids. A three day intake record was used to collect dietary and fluid data. The actual fluid content from both food and fluid was calculated and the average fluid intake for the three days was determined. The fluid intake was compared to the calculated fluid requirement for each of the study's participants. A t-test was used to analyze the associations between the actual fluid intake and the calculated fluid requirement. The patient's actual fluid intake (1167.07 +/- 327.14) was significantly below ($p < 0.05$) the calculated fluid requirement (2326.75 +/- 352.20). Some of the potential barriers affecting the patients fluid intake were 1) palatability of thickened fluids 2) impaired physical and cognitive function therefore increasing the patients dependency on others for feeding and 3) fear of choking. This study emphasizes the critical role that dietitians play in preventing dehydration in dysphagic patients.