Iowa Memorial Union

Special Session and Plenary Session
Exhibits and Poster Session
Lunches
Breaks
Banquet
Wednesday Reception

Ballroom, 2nd Floor
Triangle Ballroom, 3rd Floor
Main Lounge, 1st Floor
Triangle Ballroom, 3rd Floor
Main Lounge, 1st Floor
West Bank, Iowa River

GROUND FLOOR

FIRST FLOOR

SECOND FLOOR

THIRD FLOOR
Participants

Virginia Andriola, R.N., M.S.N.
College of Physicians and Surgeons
Columbia University and
St. Luke's-Roosevelt Hospital
New York, New York

David L. Bechtold, M.D.
Private Practice, Surgery
South Bend, Indiana

Regine Birkenhauer, R.D., M.S.
Nutrition Specialist
Medical College of Virginia
Richmond, Virginia

Charles W. Breaux, M.D.
Clinical Professor, Surgery
University of Alabama
School of Medicine
Birmingham, Alabama

Robert E. Brolin, M.D.
Associate Professor, Surgery
UMDNJ-Robert Wood Johnson
Medical School
New Brunswick, New Jersey

Rafael F. Capella, M.D.
Private Practice, Surgery
Good Samaritan Hospital
Suffern, New York

John J. Corgan, Esq.
Attorney at Law
Schiavetti, Begos & Nicholson
New York, New York

Mervyn Deitel, M.D.
Associate Professor, Surgery
and Nutritional Sciences
University of Toronto
Toronto, Ontario, Canada

C. Anne Eads, C.M.A.
Certified Medical Assistant
Private Practice
Houston, Texas

Mathias A. L. Fobi, M.D.
Assistant Clinical Professor, Surgery
King-Drew Medical Center
Los Angeles, California

R. A. Forse, M.D., Ph.D.
Associate Professor, Surgery
Royal Victoria Hospital
Montreal, Quebec, Canada

S. Ross Fox, M.D.
Private Practice, Surgery
Auburn, Washington

David S. Freedman, Ph.D.
Division of Biostatistics and Epidemiology
Medical College of Wisconsin
Milwaukee, Wisconsin

John J. Gleysesteen, M.D.
Associate Professor, Surgery
University of Alabama
Birmingham, Alabama

D. Michael Grace, M.D., Ph.D.
Associate Professor, Surgery
Western Ontario University
London, Ontario, Canada

Herschel A. Graves, Jr., M.D.
Secretary-Treasurer, American Society for Bariatric Surgery
Associate Clinical Professor, Surgery
Vanderbilt University
Nashville, Tennessee

John D. Halverson, M.D.
Associate Professor, Surgery
Washington University
St. Louis, Missouri

Jay Hollingshead, R.N.
Team Nurse, Gastric Bypass Program
New England Deaconess Hospital
Boston, Massachusetts

David C. Jacobsen, M.D.
Associate Clinical Professor, Surgery
University of California at San Diego
Bakersfield, California

John M. Kellum, M.D.
Professor, Surgery
Medical College of Virginia
Richmond, Virginia
Sherman Tang, M.D.  
Surgical Research Fellow  
Columbia University  
St. Luke's Roosevelt Hospital  
New York, New York

Jose C. Torres, M.D.  
Assistant Clinical Professor, Surgery  
University of Louisville  
Medical School  
Jeffersonville, Indiana

Victoria L. Valley  
Department of Psychology  
University of Western Ontario  
London, Ontario

Theodore B. Van Itallie, M.D.  
Professor and Director  
Obesity Research Center  
St. Luke's-Roosevelt Hospital  
New York, New York

Otto L. Willbanks, M.D.  
Assistant Clinical Professor, Surgery  
Baylor University Medical Center  
Dallas, Texas

Charles E. Yale, M.D.  
Professor and Chairman, Surgery  
University of Wisconsin  
Madison, Wisconsin

* * * * * * * * * * * * * * * * * * * * *
PROGRAM

Iowa Memorial Union
June 1, 1988

WEDNESDAY, JUNE 1, 1988
(Afternoon)

12:00    Registration
        Posters and exhibits open for viewing

1:00-1:05 Welcome
J. Patrick O'Leary, M.D.

1:05-3:00 Special Session
Moderator: Jay Hollingshead, R.N.

1:05    Application of learning theory to weight management.
        Susan Ross, Ed.D., M.S.W., R.D. ......................... 2

1:35    Follow-up evaluation after obesity surgery.
        Dianne Meelheim, R.N. ................................. 4

2:00    Psychosocial risk factors in obesity surgery.
        Victoria Valley, Ph.D. ................................. 6

2:30    Suicide following gastric bariatric surgery.
        Kenneth J. Printen, M.D. ............................. 8

2:45    Pre- and postoperative employability relative to
        gastric reduction surgery for morbid obesity.
        MaryAnn Phillips, B.S. ................................. 10

3:00-3:30 Break

3:30-4:30 Panel Discussion of Posters
Moderators: Ann Eads, C.M.A. and Louis F. Martin, M.D.

1.    Factors predicting weight loss following vertical
      banded gastroplasty.
      Rafael F. Capella, M.D. ............................... 12

2.    Outcome of bariatric surgery: Is the patient's
      race a factor?
      Dapo Popoola, M.D. ................................. 14

3.    Behavioral interventions to promote adaptive
      lifestyle changes following bariatric surgery.
      Jill Samo, M.S. ................................. 16

4.    Statistical comparison of weight loss following
      gastric bypass and vertical banded gastroplasty
      with and without preoperative dietary assessment.
      Philip T. Siegert, M.D. ............................... 18
THURSDAY, JUNE 2, 1988
(Morning)

7:00 Registration
Continental Breakfast
Posters and exhibits open for viewing

8:00-10:00 Plenary Session
Oral Communications
Moderator: John D. Halverson, M.D.

8:00 A randomized prospective clinical evaluation of silastic ring vertical gastroplasty versus vertical banded gastroplasty in treatment of morbid obesity.
Hoil Lee, M.D. ........................................ 28

8:20 Limitations in decreasing vertical banded gastroplasty collar size.
Edward E. Mason, M.D., Ph.D. ....................... 30

8:40 Risk/benefit considerations of distal gastric bypass.
Thomas G. Liszka, M.D. ............................... 32

9:00 Gastroplasty and uvulopalatopharyngoplasty for obesity-related sleep apnea.
Charles W. Breaux, M.D. ............................. 34

9:20 Coronary risk factor reduction after gastric bypass: The benefit lasts.
John J. Gleysteen, M.D. ............................... 36
9:40  Hemodynamic dysfunction in obesity hypoventilation syndrome and the effects of treatment with surgically induced weight loss.
John M. Kellum, M.D. ........................................... 38

10:00-10:30  Break

10:30-12:00  Panel Discussion of Posters
Moderator: J. Patrick O'Leary, M.D.

5. Surgical management of the failed intestinal bypass with vertical banded gastroplasty.
   David L. Bechtold, M.D. ................................. 40

   Mervyn Deitel, M.D. ........................................ 42

7. Antibiotic prophylaxis in morbidly obese patients.
   R. A. Forse, M.D., Ph.D. ................................. 44

8. Outlet stenosis following vertical banded gastroplasty.
   David C. Jacobsen, M.D. ................................. 46

9. Silastic ring vertical gastroplasty in revising the failed bariatric operation.
   Otto L. Willbanks, M.D. .................................. 48

10. Long-term results after a second operation for morbid obesity.
    Charles E. Yale, M.D. ..................................... 50

12:00-1:00  Lunch

(Afternoon)

1:00-3:00  Scientific Session
Moderators: George L. Blackburn, M.D. and John G. Kral, M.D., Ph.D.

1:00  Satiety and obesity.
    Theodore B. Van Itallie, M.D. .......................... 52

2:00  What can balloons do for obesity?
    Gary Levine, M.D. .......................................... 54

3:00-3:30  Break

3:30-5:30  Malpractice Symposium
Moderator: Otto L. Willbanks, M.D.

The do's and don'ts of a malpractice trial.
    J. J. Corgan, Esq. .......................................... 56
Plaintiff's expert, defendant's expert or both?
Edward E. Mason, M.D., Ph.D. ............................ 58

Generic malpractice cases and obesity in Canada.
J. E. Mullens, M.D. ................................. 60

Malpractice insurance refusals.
American Society for Bariatric Surgery Insurance
Committee Report ............................. 62

6:30  Cocktails, Main Lounge, Iowa Memorial Union
7:30  Banquet, Main Lounge, Iowa Memorial Union

FRIDAY, JUNE 3, 1988
(Morning)

7:30  Continental breakfast
     Posters and exhibits open for viewing

8:00-9:30  Panel Discussion of Posters
           Moderator: Harvey J. Sugerman, M.D.

11. Pouch size in failed vertical banded
gastroplasty: Comparison of upper GI and
     surgical measurements.
     David L. Bechtold, M.D. ............................ 64

12. Radiologic features after vertical banded
gastroplasty.
     Mervyn Deitel, M.D. ............................... 66

13. Inflatable silicone gastric banding: New
    method provides improved weight loss and
    easier stomal adjustment.
     Lubomyr I. Kuzmak, M.D. .......................... 68

14. Pathophysiological implications of changes of
    stomach size and intestinal lengths in
    biliopancreatic diversion.
     Nicola Scopinaro, M.D. ............................ 70

15. The importance of pouch size and limb length
    in gastric reoperations.
     Jose C. Torres, M.D. .............................. 72

9:30-10:00  Break

xxi
10:00-11:00  Panel Discussion of Posters
Moderator: John J. Gleysteen, M.D.

16. Results of weight loss on osteoarthritis in the morbidly obese patient.
   Mervyn Deitel, M.D. ......................... 74

17. The functional residual capacity in morbidly obese patients after gastroplasty.
   R. A. Forse, M.D., Ph.D. ..................... 76

18. CT scan of the brain in morbid obesity patients undergoing bariatric surgery: A prospective quantitative study.
   Harvey Solomon, M.D. ....................... 78

11:00-12:00  Distinguished Guest Speaker
 Introduced by John G. Kral, M.D., Ph.D.

11:00  Importance of regional distribution of adipose tissue.
   David S. Freedman, Ph.D. .................... 80

12:00-1:00  (Afternoon)
   Lunch

1:00-2:30  Panel Discussion of Posters
Moderator: Edward G. Flickinger, M.D.

   Mathias A. L. Fobi, M.D. .................... 82

20. Gastroplasty revisited: Seven years of follow-up data.
   S. Ross Fox, M.D. .......................... 84

   Edward E. Mason, M.D., Ph.D. .............. 86

22. Malabsorptive procedures after failed gastroplasty.
   Sherman Tang, M.D. ........................ 88

2:30-3:00  Break

3:00-4:30  American Society for Bariatric Surgery Business Meeting
J. Patrick O'Leary, M.D., President

   Additional abstracts invited for Poster Presentations .... 90
NOTICE REGARDING PROCEEDINGS

Selected papers from the Fourth Annual Meeting of the American Society for Bariatric Surgery (St. Louis, June 10-12, 1987) have been published in Gastroenterology Clinics of North America, Vol. 16, No. 3, September 1987, John G. Kral, M.D., Ph.D. and Steven B. Heymsfield, M.D., Editors, W. B. Saunders Co., Philadelphia. Consequently no Proceedings for 1987 have been prepared.
ABSTRACTS
APPLICATION OF LEARNING THEORY TO WEIGHT MANAGEMENT

Susan Ross, Ed.D., M.S.W., R.D., Invited Speaker
Human Resource Development Center, Business and Professional Institute,
College of Du Page, Glen Ellyn, Illinois

NOTES
FOLLOW-UP EVALUATION AFTER OBESITY SURGERY

Dianne Meelheim, R.N., Invited Speaker
Department of Surgery, East Carolina University, Greenville, North Carolina
WEDNESDAY, JUNE 1, 1988, 2:00 p.m.

PSYCHOSOCIAL RISK FACTORS IN OBESITY SURGERY

Victoria Valley, Ph.D., Invited Speaker
Department of Psychology, University of Western Ontario, London, Ontario

NOTES
SUICIDE FOLLOWING GASTRIC BARIATRIC SURGERY

Kenneth J. Printen, M.D.
Department of Surgery, St. Francis Hospital, Evanston, Illinois

A variety of psychiatric evaluation tools have been employed to screen morbidly obese patients preoperatively, without establishing any widely accepted objective psychiatric criteria for gastric bariatric surgery. Referral from a psychiatrist should be a valid psychiatric screen; however, in our series of 1750 patients, there have been five documented postoperative suicides. Four of the five patients were directly referred by a psychiatrist and one by a family guidance counsellor for treatment of their morbid obesity. All patients had a history of psychiatric treatment primarily for depressive symptomatology. All patients were relatively young (16-37) and had experienced excellent weight loss following surgery. (Average 100 pounds)

Analysis of the patient histories and outcomes showed that four of the five had made overt suicidal gestures in the preoperative period and that weight loss did not produce the hoped for improvements in the patients total lifestyle.

While this incidence of suicide is below the generally quoted figures for young adults, these patients demonstrate that discussion of realistic career and life goals must be an integral part of the total patient care plan. The presence of an overt suicidal attempt in the medical history may be a disqualifying psychiatric criterion for gastric bariatric surgery even in the presence of otherwise favorable psychiatric criteria for surgery.

NOTES
There is virtually no information in the medical literature on the subjects of obesity-related job and insurance discrimination. Questionnaires were mailed to 171 postop bariatric surgical patients with 75 respondents (44%). Prior to operation 21 respondents were denied jobs in high visibility positions such as waitressing, sales, secretary-receptionist and computer programmer. Fourteen patients were denied life or health insurance preop. Forty-six patients (61%) were employed preop whereas 26 (35%) were unemployed and 3 were retired. After gastric reduction surgery 35 patients (47%) had the same job as preop, while 20 of 26 patients (77%) who were unemployed preop secured full time jobs. Eleven of the 46 patients who were employed preop reported securing a better job either in the form of a promotion or change in employer. No patient was fired or became unemployed following operation. These data show that employment and insurance discrimination against obesity exists and that postop weight loss results in increased employability among the unemployed and improved employment opportunities among those who were employed prior to operation.

NOTES
POSTER #1: FACTORS PREDICTING WEIGHT LOSS FOLLOWING VERTICAL BANDED GASTROPLASTY

Rafael F. Capella, M.D.
Private Practice, Good Samaritan Hospital, Suffern, New York

Pre-operatively several parameters were studied and compared for weight loss following Vertical Banded Gastroplasty (VBG). In a series of 502 cases of VBG performed by the author the following parameters were studied: sex, age, family history of obesity, parity, pre-op weight, appearance of obesity (childhood, adolescence, adulthood) ingestion of high calorie liquids, affinity for sweets, amount of food eaten and degree of weight loss with previous non-surgical attempts. Several of these parameters appeared to relate directly to percentage weight loss after surgery: males lost more than females, younger individuals more than older ones, nulliparous women more than multiparous, patients with obesity since childhood or adolescence lost more than those whose obesity came later. Finally, patients who have been most successful in loosing weight by previous dietary attempts, lost more weight after surgery.

Certain pre-op parameters appear to play a role in post surgical weight loss after VBG. It is possible that good prospective patients could be separated from poor ones and special attention given to the latter ones. A formula could be eventually developed to predict weight loss after surgery.

NOTES
Weight loss in 30 patients with VBG and 22 with silastic ring gastroplasty (SRG) with identical pouch and stoma sizes and identical absolute and excess weights are reported after one year of follow-up. A slightly increased weight loss with SRG is not statistically significant. Nineteen patients are Blacks (37%), 23 are Caucasian (44%) and 10 are Hispanic (19%). Percent excess weight loss of 69% in Caucasians is significantly greater (p<0.05), compared to 50% in Blacks and 47% in Hispanics. A greater percent excess weight loss of 55% with SRG vs 44% with VBG in Blacks is not statistically significant (p = 0.23). Race appears to be a factor in weight loss after gastric restrictive procedures in bariatric surgery.
POSTER #3: BEHAVIORAL INTERVENTIONS TO PROMOTE ADAPTIVE LIFESTYLE CHANGES FOLLOWING BARIATRIC SURGERY

Jill Samo, M.S., Jalie A. Tucker, Ph.D.*, Colleen S. W. Rand, Ph.D., Edward R. Woodward, M.D.
University of Florida, Departments of Surgery and Psychiatry, Gainesville, Florida, and *Wayne State University, Detroit, Michigan

This research evaluated a behavioral program designed to promote positive lifestyle adjustment in obese patients undergoing bariatric surgery. All participants viewed a preoperative videotape that explained desirable postoperative eating and related lifestyle changes and then participated in monthly data collection interviews for 6 months following surgery. Subjects were randomly assigned to a control group, who received no additional procedures, or a treatment group, who received eating and lifestyle-related written materials every 2 weeks and participated in monthly psychological consultations focusing on those issues. Of 50 eligible subjects, 32 (11 males) completed the 6 month follow-up procedures. The respective means for age, preoperative weight, and ideal weight were 39.9 years, 314.3 lbs., and 135.7 lbs.; 10 and 22 subjects had gastric bypass or vertical band surgery, respectively. Both groups lost weight, but did not differ significantly. Mean weights at 3, 6, and 12 months after surgery were 264.1, 242.0, and 221.0 lbs., respectively. The treatment condition, however, positively affected several lifestyle variables; e.g., at 2 and 5 months after surgery, treatment subjects reported more positive marital ($p < .02$) and family ($p < .068$) relations and greater physical activity ($p < .05$) than did controls. The results suggest that while psychologically based interventions may not enhance the already substantial weight losses produced by surgery, they facilitate positive postoperative adjustments in patients' lifestyles.

NOTES
POSTER #4: STATISTICAL COMPARISON OF WEIGHT LOSS FOLLOWING GASTRIC BYPASS AND VERTICAL BANDED GASTROPLASTY WITH AND WITHOUT PREOPERATIVE DIETARY ASSESSMENT

Philip T. Siegert, M.D., Diane Bednar, R.N., M.S., Liza Kline, R.D.
Private Practice, Lutheran Hospital, Moline, Illinois

A statistical comparative review of weight loss following standard loop gastric bypass (200 patients) and vertical banded gastroplasty (100 patients) completed in early 1986 revealed that gastric bypass patients generally lost 21% more of their excess weight at 12 months post op, and this gap widened to 27% more than vertical banded gastroplasty patients at 2 years post op. Three, four, and five year post op statistics were essentially unchanged.

A large part of these weight loss differences was felt to be due to excessive sweets eating by the VBG patients. Most of the bypass patients could not do this because of development of a dumping syndrome. Therefore, a vigorous attempt was made to screen the patients pre-operatively by the surgeon and the nurse in order to identify patients who could not avoid sweets. In June, 1986, our program was expanded to include registered dietician screening techniques as discussed in the studies by Harvey Sugarman, M.D., and Janet Starkey, R.D., presented at the annual meeting.

Statistical review following the institution of the pre-operative dietary assessment program revealed that both groups (RYGB and VBG) are virtually paralleling each other in terms of excess weight loss. These statistics will be presented as well as standard biographical data, average pre-op weights, and follow-up rates. A description of the dietary assessment plan utilized will also be described.

NOTES
WEDNESDAY, JUNE 1, 1988, 4:30 p.m.

CHANGES IN EATING BEHAVIOR AFTER GASTROPLASTY AND ROUX-EN-Y GASTRIC BYPASS

Hallis A. Kenler, R.D., Ph.D., Robert E. Brolin, M.D., R. P. Cody
Department of Surgery, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, New Jersey

Fifty-three patients had horizontal gastroplasty (GP) and 50 patients had gastric bypass (GB). Eight dietary variables were compared at 4 time intervals: preop and at 6, 12 and 18 months postop. Variables included: 1) mean calorie intake; percent dietary composition of 2) protein, 3) carbohydrate and 4) fat; specific preferences for 5) sweets/soda/other high calorie beverages (SWS) and 6) milk/ice cream (MIC) as percentage of total calories; 7) high calorie liquids (HCL) and non-liquid sweets (NLS) as percentage of sugar in the diet.

Carbohydrate and fat intake remained relatively constant over time after GP and GB. In GP patients protein consumption remained constant vs. GB patients whose protein consumption significantly increased by ≥21% at each postop interval (p<0.002). In GB patients intake of SWS, MIC and HCL decreased significantly at all postop intervals (p<0.005). At 18 months postop mean weight and calorie intake in GB patients (211#, 1219 cal.) were significantly less than in GP patients (240#, 1637 cal.) (p≤0.05). SWS consumption was significantly less in GB (13%) vs GP patients (22%) at 18 months postop (p<0.03). Preop MIC consumption of GB patients (10%) was twice that of GP patients (5%). Postop MIC intake in GB patients dropped to 6% while MIC intake in GP patients rose to 9% postop. Conclusions: 1) Significantly greater weight loss in GB vs. GP patients was due to significantly lower calorie intake. 2) The significant postop decreases in consumption of SWS, HCL and MIC in GB patients may be responsible for the lower postop calorie intake vs. GP patients.

NOTES
ACCURACY OF SELF-REPORTED HEIGHT AND WEIGHT IN MORBIDLY OBESE WOMEN

College of Physicians and Surgeons of Columbia University and St. Luke's-Roosevelt Hospital Center, New York, New York

Several large population studies have revealed underreporting of weight by heavier patients. Bariatric surgeons frequently report weights based on questionnaires or telephone calls to the patients. No data is available for the morbidly obese. Forty-two morbidly obese women (21-62 yrs) reported their weights and heights in the office prior to being weighed and measured during evaluation for obesity surgery. Measured weight = 130±9.4 kg (mean±sem) and reported weight = 128±3.9 kg. The difference of 2.1±0.9 kg is statistically significant (p<0.05). Twenty-five patients misreported their weights by ≥1.3 kg, 6 over- and 19 under-reported (0.1 > p > 0.05). The magnitude of underestimation of weight was statistically significantly associated with the actual measured body weight, the heavier patients reporting lower weights (p<0.001). Measured height was 164.3±1.3 cm vs 169.1±1.3 cm reported by the patients (p<0.01). Twenty-five patients over-reported their heights. The erroneous self-reports resulted in a statistically significant difference in BMI: 48.6±1.7 vs 47.0±1.5 kg/m² (p<0.01).

Conclusion: Erroneous self-reporting of weight and height distorts results of bariatric surgery. This compounds the error introduced by the follow-up defect for evaluating outcome.

NOTES
MULTIVITAMIN PROPHYLAXIS IN PREVENTION OF POST GASTRIC BYPASS MICRONUTRIENT DEFICIENCIES

Robert E. Brolin, M.D., R. C. Gorman, L. M. Milgrim, H. A. Kenler
Department of Surgery, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, New Jersey

Recognition of micronutrient deficiencies has resulted in routine prescription of multivitamins (MVI) after gastric bypass. 140 patients were followed for 12-48 mo., mean =24.2 mo. Postop MVI prophylaxis was recommended for all patients and 90 of 140 patients (64%) were regularly compliant. The incidence of micronutrient deficiency was correlated with MVI use by Chi square and Fisher's exact tests. Deficiencies in one or more micronutrients were recognized in 88 of 140 patients (63%). Incidence and mean postop time of deficiency recognition was 33% and 13.4 mo. for iron; 37% and 12.8 mo. for vitamin B-12; 16% and 10.7 mo. for folate. 30 of 45 patients (67%) with iron deficiency developed a microcytic anemia. 43 of the 52 patients who did not have micronutrient deficiencies were regularly taking MVI vs. 47 of 88 patients who developed deficiencies (p<0.001). MVI use was successful in preventing postop folate (p<0.05) and B-12 deficiencies (p<0.02). MVI did not prevent development of iron deficiency or subsequent anemia. All patients with postop deficiencies were told to begin taking MVI with additional oral iron, B-12 or folate supplements prn. Compliance rate was 35%. There was no correlation between taking supplements and resolution of either iron deficiency or anemia. B-12 and folate supplements corrected deficiencies in ≥75% of cases. We conclude that MVI prophylaxis is useful in preventing folate and B-12 deficiency after gastric bypass. Additional prophylactic iron supplements should be provided to prevent iron deficiency anemia.

NOTES
IS THE RISK/BENEFIT RATIO FOR BARIATRIC OPERATION DIFFERENT FOR PATIENTS DEPENDENT ON PUBLIC ASSISTANCE THAN FOR THE PRIVATELY INSURED?

Louis F. Martin, M.D.
Milton S. Hershey Medical Center, Penn State University, Hershey, Pennsylvania

We examined morbidity and mortality rates for morbidly obese patients accepted for gastric bypass surgery to determine if differences existed between patients who were privately insured versus those who were dependent on public assistance. Of eighty patients who had surgery in a 2 year period, 33 (41%) were dependent on public assistance, while 47 (59%) were privately insured. Sex distribution, age, weight, marital status, associated medical illnesses and age of obesity onset were similar in the two groups.

Overall, 41 (51%) patients developed at least one complication which included 28 (35%) who developed medical complications, 20 (25%) who developed food intolerances or were slow to progress to solids, and 18 (22%) who developed psychiatric complications. More patients on public assistance developed complications when compared to those with private insurance (82% vs 32%, \(X^2 = 18.98, p < 0.001\)). This difference was all due to the frequency of medical complications (63% vs 15%, \(X^2 = 18.16, p < 0.001\)) since neither food intolerances nor psychiatric complications were significantly different between the two groups. Although public assistance patients had more complications, they all lost weight. Additionally, 40% of those on welfare and 33% of those on disability lessened their need for public assistance. These data suggest that both the risk and the benefit are increased when patients on public assistance undergo gastric bypass. Ways to decrease the risk of these patients developing postoperative complications need to be identified.

NOTES
A RANDOMIZED PROSPECTIVE CLINICAL EVALUATION OF SILASTIC RING VERTICAL GASTROPLASTY VERSUS VERTICAL BANDED GASTROPLASTY IN TREATMENT OF MORBID OBESITY

Hoil Lee, M.D., Mathias A.L. Fobi, M.D., Perry Montoya, M.D., Louisa Dzenyuy, M.D.
Private Practice, Inglewood, California

From October 1985 to April 1986 a randomized prospective clinical evaluation of Silastic Ring Gastroplasty versus Vertical Banded Gastroplasty was carried out at the Center For Surgical Treatment of Obesity in Los Angeles. One hundred and twenty patients were entered in the study with sixty in each group. Perioperative complication rate, long term complication rate, sex and weight distribution were about identical in both groups. There is a significant difference in the percentage excess weight loss at 18 months between the two groups of 10% excess weight loss. It appears from our initial analysis that the marlex banded gastroplasty is less effective for weight control because it allows more fluid intake than the Silastic Ring Gastroplasty. Other advantages of the Silastic Ring Gastroplasty over the Marlex Banded Gastroplasty will be presented.
An appropriately small stoma is a necessary part of any gastric reduction operation designed for the treatment of extreme obesity. The objective is to force the patient to decrease meal size and rate of eating without producing obstruction. Smaller stomas do not always increase weight loss because they may also contribute to maladaptive eating.

Reduction of collar circumference in vertical banded gastroplasty (VBG) from 5.5 cm to 5.0 increased weight loss by 10 to 15 percent of excess weight while reducing the rate of revision. Consequently, in anticipation of greater weight loss, one of us elected to further reduce the collar circumference to 4.5 cm in all patients while the others elected to use the 4.5-cm collar only in super obese (>225% of ideal) patients. From the available two-year data, it has become evident that weight loss produced by a 4.5-cm collar is equivalent to but not significantly greater than that from a 5.0-cm collar. The 5.0-cm collar produced a 61.6% loss of excess weight in the morbid obese patient (n=237), while in the super obese patient the loss was 54.1% (n=77). The 4.5-cm collar produced a loss of 61.4% of excess in the morbid obese patient (n=78) and a 52.6% loss in the super obese (n=28). In addition, there has been an increased incidence of maladaptive eating reported by patients with a 4.5-cm collar. Furthermore, the revision rate during the first two years with the 4.5-cm collar is two to three times higher than with a 5.0-cm collar. As a result we have decided that the 4.5-cm collar will not be used until there is evidence from these patients, or other surgeons' patients, that such a small sized collar has advantages over larger collars.

NOTES
Thirty-three morbidly obese patients underwent either a primary distal gastric bypass (P-DGBP) or revision of a previous obesity procedure (R-DGBP), using a 50 cm common intestinal tract and a 50 cc extremely small gastric pouch (ESGP) in 24 (15 primary, 9 revised) and a 200 cc very small gastric pouch (VSGP) in 9 (all primary). They were compared to 162 patients who underwent a standard proximal gastric bypass (PGBP). Protein malnutrition (PM) was mild, moderate or severe with serum albumin 3.5 to 3.0, 2.9 to 2.5, and < 2.5 g/dl, respectively. Results: ESGP weighed more than PGBP prior to surgery (342 ± 50 vs 302 ± 61, p < 0.01) but lost > % preop weight at one year than PGBP (41 ± 7 vs 35 ± 8%, P < 0.05). PGBP had > % excess weight loss than VSGP (69 ± 20 vs 56 ± 11, p < 0.01). No PGBP developed PM. PM occurred in 79% ESGP (30% severe) at 31 ± 5 weeks postop and in 33% with VSGP at 72 ± 9 weeks postop. Tube feedings were required in 36% ESGP and 22% of VSGP; TPN was required in 9% ESGP. One R-DGBP, ESGP patient died with severe PM; one developed severe liver failure. Five ESGP and 2 VSGP were converted to 150 cm common intestinal tracts. Subnormal levels of carotene were seen in 10/10, Vitamin A in 9/20 and Vitamin D in 13/18 patients. Conclusions: DGBP was effective for weight loss but with an unacceptable incidence of PM, carotene, Vitamin A and D deficiencies. DGBP needs to be modified for patient safety.
GASTROPLASTY AND UVULOPALATOPHARYNGOPLASTY FOR OBESITY-RELATED SLEEP APNEA

Charles W. Breaux, M.D., James S. Reilley, M.D., Glen E. Peters, M.D.
The Cooper Green Hospital, Birmingham, Alabama

Forty-five (45) patients with the sleep apnea syndrome were operated on from 1979 to 1987. Average follow-up has been forty-six (46) months. Twenty-five (25) patients had the pure central sleep apnea syndrome and twenty (20) patients had the mixed variety (obstructive and central). The age range was 16-69 years and initial weight range was 238-506 pounds. There were twenty-one (21) males and twenty-four (24) females. Five (5) patients were treated with tracheostomy and eighteen (18) received uvulopalatopharyngoplasty. All patients underwent subsequent or simultaneous gastroplasty. Patients with the extreme example of the sleep apnea syndrome or the "Pickwickian Syndrome" had marked improvement in arterial blood gases and pulmonary function tests after surgery. Thirty-five (35) patients with complete correction of sleep apnea symptoms averaged 116 pounds weight loss or 35% of original weight. Eight (8) patients improved, but with some persistent sleep apnea symptoms, averaging 50 pounds weight loss or 17% of original weight. There were two (2) deaths, consistent with the severe morbidity suffered by sleep apnea patients.

NOTES
THURSDAY, JUNE 2, 1988, 9:20 a.m.

CORONARY RISK FACTOR REDUCTION AFTER GASTRIC BYPASS: THE BENEFIT LASTS

John J. Gleysteen, M.D., Joseph J. Barboriak, Sc.D., Edward A. Sasse, Ph.D.
Departments of Surgery, Pharmacology and Pathology, Medical College of Wisconsin, Milwaukee, Wisconsin

In 1983 we showed that lipid risk factors associated with cardiac disease in morbidly obese patients were improved at one year by weight reduction after gastric bypass. Our purpose now was to learn if the benefits persisted in our original 1980-81 patients. Total cholesterol (TC), HDL cholesterol (HDLc), triglycerides (TG), and apoproteins A1 and B were measured in 33 of the original patients (24 F, 9 M) and were studied again before gastric bypass and at one year in 23 new patients (18 F, 5 M). Initial excess weights of the new group (166 ± 39 lbs) and original group (156 ± 24 lbs) were similar.

Results. Percent excess weight lost at one year was identical in the new and the original groups (61 ± 16%); it was 48 ± 19% in the 1980-81 group at 5-7 years. Mean TC did not change through one or 5-7 years. Initial Apo A1 (123 ± 22 mg%) and B (71 ± 17 mg%) did not change through one year and levels were the same at 5-7 years.

<table>
<thead>
<tr>
<th></th>
<th>1980-81 Pre</th>
<th>1 YR</th>
<th>5-7 YRS</th>
<th>1985-86 Pre</th>
<th>1 YR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TG</td>
<td>152 ± 58</td>
<td>93 ± 36*</td>
<td>143 ± 14</td>
<td>105 ± 30</td>
<td>96 ± 45</td>
</tr>
<tr>
<td>HDLC</td>
<td>45 ± 14</td>
<td>60 ± 15*</td>
<td>55 ± 12*</td>
<td>36 ± 11</td>
<td>54 ± 14*</td>
</tr>
<tr>
<td>TC/HDLC</td>
<td>4.8 ± 2.4</td>
<td>3.1 ± 1.1*</td>
<td>3.5 ± 1.0*</td>
<td>5.1 ± 1.6</td>
<td>3.8 ± 1.3*</td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TG</td>
<td>236 ± 124</td>
<td>127 ± 68*</td>
<td>161 ± 66*</td>
<td>153 ± 37</td>
<td>101 ± 53*</td>
</tr>
<tr>
<td>HDLC</td>
<td>38 ± 9</td>
<td>60 ± 17*</td>
<td>48 ± 18</td>
<td>32 ± 6</td>
<td>60 ± 11*</td>
</tr>
<tr>
<td>TC/HDLC</td>
<td>5.6 ± 1.6</td>
<td>3.2 ± 1.0*</td>
<td>4.1 ± 1.3*</td>
<td>6.3 ± 0.9</td>
<td>2.8 ± 0.3*</td>
</tr>
</tbody>
</table>

T TEST: * p<0.01; ** p<0.025 ..... Pre vs 1 YR or 5-7 YRS

Conclusions. Mean TG, when elevated preoperatively, became normal at one year, and were normal or reduced at 5-7 years. Mean HDLC increased at one year which persisted at 5-7 years in women (p<.01). One year improvement in TC/HDLc ratios, which closely correlate with coronary risk, persisted at 5-7 years (p<.01) in both sexes. These data indicate that coronary risk factor benefits caused by gastric bypass-induced weight loss continue beyond five years.

NOTES
HEMODYNAMIC DYSFUNCTION IN OBESITY HYPOVENTILATION SYNDROME (OHS) AND THE EFFECTS OF TREATMENT WITH SURGICALLY INDUCED WEIGHT LOSS

John M. Kellum, M.D., Paul Baron, M.D., Harvey J. Sugerman, M.D., R. Paul Fairman, M.D., Gary Benton, M.D., Charles Evans, M.D., George Vetrovec, M.D. Departments of Surgery and Medicine, Medical College of Virginia, Virginia Commonwealth University, Richmond, Virginia

Morbidly obese patients may suffer from OHS (PaO$_2$ ≤ 55 ± PaCO$_2$ ≥ 47 torr) which is frequently associated with pulmonary hypertension and cardiac dysfunction. This study evaluated right heart catheterization in 46 morbidly obese patients: 20 controls (3 male, 17 female) without and 26 (14 male, 12 female) with OHS, as well as the effects of gastric surgery induced weight loss in 17 OHS patients re-catheterized 3 to 9 months postoperatively. Results: Although there was no significant difference in pre-operative percent ideal body weight (%IBW) or cardiac index (CI) between OHS and control patients, the OHS group had significantly greater mean pulmonary artery (PAP) and pulmonary wedge (PWP) pressures. Weight reduction following gastric surgery significantly improved all abnormal parameters. The following significant (p<0.0001) preoperative correlations were also noted: PAP with PWP ($r = 0.8$) and PAP with PaO$_2$ ($r = -0.6$), suggesting that the increased PAP in OHS was due to both left ventricular dysfunction and hypoxemic pulmonary artery vasoconstriction.

<table>
<thead>
<tr>
<th></th>
<th>%IBW</th>
<th>PaO$_2$</th>
<th>PaCO$_2$</th>
<th>PAP</th>
<th>PWP</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-op Control</td>
<td>221±36</td>
<td>84±12</td>
<td>39±3</td>
<td>18±6</td>
<td>11±3</td>
<td>3.2±0.6</td>
</tr>
<tr>
<td>Pre-op OHS</td>
<td>229±47</td>
<td>53±9**</td>
<td>51±6**</td>
<td>35±14**</td>
<td>20±11*</td>
<td>3.5±0.6</td>
</tr>
<tr>
<td>Post-op OHS</td>
<td>176±35++</td>
<td>66±12++]</td>
<td>42±4++</td>
<td>24±5++</td>
<td>14±4+</td>
<td>4.0±2.0</td>
</tr>
</tbody>
</table>

* Pre-op OHS vs Control, + Post-op OHS vs Pre-op OHS
+/+ p<0.01, ++/++ p<0.0001

NOTES
Several previous papers (Woodward, 1986) have concluded that gastric partitioning procedures are not acceptable for the surgical treatment of unsuccessful intestinal bypass. From 1981 to 1986, 31 of 85 jejunal ileal bypass patients (36%) underwent conversions to Vertical Banded Gastroplastys because of recurrent malnutrition, persistent bypass enteritis, urinary calculi, or liver failure. Time of conversion averaged 5.4 years from time of intestinal bypass (range 2-11 years).

Patients were divided into two groups depending on whether the conversion was done at the same time as the bypass reversal or at a second procedure (23 vs 10 patients). The results of weight loss were compared with another group of 175 patients who underwent primary VBG during the same time. While there was some weight gain in the simultaneous group (mean weight 96 kilos preop vs 101 kilos at 2 years), this was not considered significant. In the sequential group, weight loss paralleled that of the initial VBG group (preop mean weight of 134 kilos vs 93 kilos at 2 years or 50% of excess weight loss).

It is concluded that, in spite of previous reports to the contrary, the VBG is an adequate conversion procedure following reversal of the intestinal bypass.
THURSDAY, JUNE 2, 1988, 10:30 a.m.

POSTER #6: A COMPARISON OF DEXON AND MAXON FOR ABDOMINAL FASCIAL CLOSURE IN MORBID OBESITY

Mervyn Deitel, M.D., Phung Ly, M.D., Toan B. To, M.D., Claude J. Burul, M.D.
Departments of Surgery and Nutritional Sciences, University of Toronto, St. Joseph's Health Centre, Toronto, Canada

Dexon Plus (braided polyglycolic acid, coated with poloxamer 188) and Maxon (monofilament modified polyglycolic acid) sutures are frequently used for closure in bariatric surgery. A prospective randomized study was done on consecutive patients undergoing vertical banded gastroplasty through an upper midline incision over a 9-month period. Patients had a single layer closure with continuous and a few interrupted sutures, of No. 1 Dexon or Maxon. Patients who had previous incisions in the area were excluded. Data were tabulated on a data-collection-form. All patients have been followed (100%) for >1 year (t-test):

<table>
<thead>
<tr>
<th></th>
<th>Dexon Plus</th>
<th>Maxon</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Patients</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Age (Mean±SD)</td>
<td>34±9 (22-55)</td>
<td>36±8 (23-54)</td>
</tr>
<tr>
<td>Female:Male</td>
<td>36:6</td>
<td>39:3</td>
</tr>
<tr>
<td>Wound Infection</td>
<td>1 (2.4%)</td>
<td>4 (9.5%)</td>
</tr>
<tr>
<td>Seroma</td>
<td>1 (2.4%)</td>
<td>3 (7.1%)</td>
</tr>
<tr>
<td>Wound Infection or Seroma</td>
<td>2 (4.8%)</td>
<td>7 (16.7%) p&lt;0.05</td>
</tr>
<tr>
<td>Hernia</td>
<td>0 (0%)</td>
<td>4 (9.5%)* p&lt;0.05</td>
</tr>
</tbody>
</table>

*2 had wound infection, 1 had seroma.

Handling of Dexon which has higher coefficient of friction was easier than smooth Maxon in the massively obese. Breakage of both sutures at No. 1 size was rare, but the swedged needle on Maxon frequently pulled off. Dexon had better first-throw holding, but no difference in knot security between the 2 sutures was noted. Ends beyond the knot projected upward with the stiffer Maxon. From the above, we conclude that there are fewer wound problems with Dexon than Maxon.

NOTES
Wound infections in the morbidly obese patients (MO) undergoing gastroplasty surgery was 16% compared to clean contaminated surgery in normal weight patients (NW) of 2.8% (p<.005). We tested the hypothesis that the regime of prophylaxis did not provide adequate tissue levels in the MO.MO patients(body mass index=47.1±6.4) undergoing gastroplasty were randomized to receive 1 g CF in the buttock fat (SC,n=11, 1.5 inch needle), buttock muscle (IM,n=8, 4 inch needle) or intravenously (IV n=11). A fourth group of MO patients received 2 g of CF IV(n=10). NW patients (n=8, body mass index=22.8±3.9) having upper abdominal surgery received 1 gm of CF IV. At incision and closure of the abdomen, venous blood and wound adipose tissue were obtained. CF levels were determined using the agar diffusion method with Bacillus subtilis as the indicator. Statistical analysis was done with ANOVA and Bonferoni corrected t-test (*= p<.01 from NW). The results (mean±SEM) are:

<table>
<thead>
<tr>
<th>GROUP</th>
<th>SERUM (mcg/ml)</th>
<th>FAT (mcg/ml)</th>
<th>SERUM (mcg/ml)</th>
<th>FAT (mcg/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM 1G IV</td>
<td>110.6±18.9</td>
<td>6.0±1.3</td>
<td>44.5±7.5</td>
<td>4.4±0.8</td>
</tr>
<tr>
<td>MO SC</td>
<td>26.1±6.7*</td>
<td>0.9±0.7*</td>
<td>21.7±4.7*</td>
<td>1.7±0.4*</td>
</tr>
<tr>
<td>MO IM</td>
<td>29.5±4.9*</td>
<td>1.7±1.0*</td>
<td>23.3±2.6*</td>
<td>1.9±0.6*</td>
</tr>
<tr>
<td>MO 1G IV</td>
<td>65.2±15.1*</td>
<td>4.0±2.3*</td>
<td>23.5±5.1*</td>
<td>2.4±1.1*</td>
</tr>
<tr>
<td>MO 2G IV</td>
<td>127.8±16.3</td>
<td>7.3±3.2</td>
<td>46.3±9.9</td>
<td>4.1±1.1</td>
</tr>
</tbody>
</table>

At both incision and closure the blood and tissue levels were significantly (p<.001) lower for the MO patients receiving 1 gm CF as compared to the NW. Only when the MO patient received 2 g CF were the levels adequate. For a four month period the MO patients received 2g CF prophylaxis. Their wound infection rate dropped to 11% as compared to 19% (p<.01) for the same period the year before. We conclude that antibiotic prophylaxis must be tailored for the MO patient.
POSTER #8: OUTLET STENOSIS FOLLOWING VERTICAL BANDED GASTROPLASTY

David C. Jacobsen, M.D.
Department of Surgery, Kern Medical Center, Bakersfield, California

In a series of 300 VBG's, nine patients experienced outlet stenosis requiring surgical revision. All but one of these stenoses occurred with a 4.5 cm. band. In each case, persistent intolerance of solid food began in the early postoperative period. Stenosis was confirmed radiographically and endoscopically. Time from VBG to revision ranged from 3 months to 1 years. In seven patients, revision consisted of division or enlargement of the band. At 6 months to 2 year follow-up, these seven patients are able to eat solid food while continuing or maintaining weight loss. In two patients, unsuspected peri-band abscesses were found and the band was entirely removed. Both of these patients have regained their lost weight at 1 year follow-up. In no case was there evidence of fibrosis or erosion at the site of the band. Measurements in subsequent patients suggest that outlet stenosis is due to inaccurate sizing at the time of surgery. Technical modifications are proposed which appear to eliminate this problem.

NOTES
THURSDAY, JUNE 2, 1988, 10:30 a.m.

POSTER #9: SILASTIC RING VERTICAL GASTROPLASTY IN REVISING THE FAILED BARIATRIC OPERATION

Otto L. Willbanks, M.D.
Baylor University Medical Center, Dallas, Texas

INTRODUCTION: As knowledge and experience has accrued, bariatric surgeons have moved steadily toward vertical gastroplasty banded either with mesh or with Silastic and Roux-en-Y bypass as the procedures of choice for morbid obesity as the most effective and least complicated procedures. Constantly presenting, however, is a group of patients, the revisions, that have unique problems and results that demand special consideration.

METHODS: Of the 1,532 vertical Silastic ring gastroplasties performed, 22% or 344 have been constructed in revision of an earlier bariatric procedure. It is this group that is studied in the present report.

RESULTS: Overall, the number of weight loss failures and complications from surgery are increased two-fold in the revision group over those receiving gastroplasty as the initial procedure. The best results were seen with patients whose initial operation was a vertical non-banded gastroplasty. In this group of 31 patients there were no major complications or technical failures. The most serious complications occurred when horizontal staple lines were replaced with a vertical partition. Five major complications, perforations and obstructions occurred, probably because of devascularization at the intersection of the two staple lines. The jejunoileal bypass patients are especially susceptible to dietary loss failure because of years of undisciplined eating that renders retraining in proper eating habits difficult.

CONCLUSION: In general, vertical mesh or Silastic banded gastroplasty is a preferred method of gastric restriction when an earlier unsuccessful or complicated procedure is revised. An exception is the revision of a horizontal partition, the crossed staple lines leading to localized ischemia and the possibility of perforation or obstruction. These revisions should probably be concluded with a Roux-en-Y bypass.

NOTES
THURSDAY, JUNE 2, 1988, 10:30 a.m.

POSTER #10: LONG-TERM RESULTS AFTER A SECOND OPERATION FOR MORBID OBESITY

Charles E. Yale, M.D.
Department of Surgery, University of Wisconsin, Madison, Wisconsin

Some operations for morbid obesity fail - for a variety of reasons. To better understand the risk and efficacy of a second operation, a review was made of all 120 patients who had a second procedure between 9-77 and 10-87 at one university hospital. Sixty-two patients were converted to a GBY*, 11 to a GG*, and 47 to a VBG*.

Results: Four patients are dead (3 of unrelated causes), 5 (4.2%) are lost to follow-up, 11 have had a third operation, and long term follow-up data are available on 69/86 patients who had their second operation three or more years ago. Long term results are:

<table>
<thead>
<tr>
<th>Conversion To:*</th>
<th># of Pts.</th>
<th>Average Weight - Lbs ± S.D.</th>
<th>Failures†</th>
<th>Aver Wt Loss % Orig % Exc Wt. Wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Orig Pre-Conv Post-Conv 5(3) Yrs.</td>
<td>No. (%)</td>
<td>% Orig</td>
<td>% Exc</td>
</tr>
<tr>
<td>GBY from JIB</td>
<td>21 323±57 179±36 220±45</td>
<td>4(19)</td>
<td>31.1</td>
<td>55.2</td>
</tr>
<tr>
<td>from GP</td>
<td>28 288±53 263±53 202±44</td>
<td>6(21)</td>
<td>29.1</td>
<td>56.0</td>
</tr>
<tr>
<td>GG from JIB</td>
<td>5 337 205 279</td>
<td>3(60)</td>
<td>14.3</td>
<td>20.6</td>
</tr>
<tr>
<td>VBG 5.0 from JIB</td>
<td>2 329 241 (249)</td>
<td>1(50)</td>
<td>24.4</td>
<td>41.1</td>
</tr>
<tr>
<td>from GP</td>
<td>13 299±59 248±50 (212±56)</td>
<td>3(23)</td>
<td>29.0</td>
<td>54.0</td>
</tr>
</tbody>
</table>

*GBY-Gastric bypass with Roux-n-y gastrojejunostomy; GP-Gastroplasty, unbanded; GG-Gastrogastrostomy, unbanded; JIB-Jejunoileal bypass; VBG 5.0-Vertical banded gastroplasty with 5.0 cm circumference Marlex band.

†Failure to lose less than 20% of original weight.

Conclusions: A patient with an unsatisfactory primary operation for morbid obesity can be safely converted to a GBY or a VBG with the expectation of satisfactory weight control.

NOTES
THURSDAY, June 2, 1988, 1:00 p.m.

SATIETY AND OBESITY

Theodore B. Van Itallie, M.D., Invited Speaker
Obesity Research Center, St. Luke's Roosevelt Hospital, New York, New York

NOTES
THURSDAY, JUNE 2, 1988, 2:00 p.m.

WHAT CAN BALLOONS DO FOR OBESITY?

Gary Levine, M.D., Invited Speaker
Division of Gastroenterology, Albert Einstein Medical Center, Philadelphia, Pennsylvania

NOTES
THURSDAY, JUNE 2, 1988, 3:30 p.m.

THE DO'S AND DON'TS OF A MALPRACTICE TRIAL

John J. Corgan, Esq., Invited Speaker
Attorney at Law, Schiavetti, Begos & Nicholson, New York, New York

NOTES
THURSDAY, JUNE 2, 1988, 3:30 p.m.

PLAINTIFF'S EXPERT, DEFENDANT'S EXPERT OR BOTH?

Edward E. Mason, M.D., Ph.D.
Department of Surgery, The University of Iowa, Iowa City, Iowa
THURSDAY, JUNE 2, 1988, 3:30 p.m.

GENERIC MALPRACTICE CASES AND OBESITY IN CANADA

J. E. Mullens, M.D., Invited Speaker
Assistant Secretary-Treasurer, Canadian Medical Protective Association,
Toronto, Ontario, Canada

NOTES
THURSDAY, JUNE 2, 1988, 3:30 p.m.

MALPRACTICE INSURANCE REFUSALS

American Society for Bariatric Surgery Insurance Committee Report

NOTES
The idea that measurements of VBG pouch size on Upper Gastrointestinal series can accurately predict pouch enlargement was recently advanced (ASBS meeting, June 1987). A retrospective study to test this hypothesis was therefore undertaken.

From October 1984 to May 1987, 20 patients underwent Vertical Banded Gastroplasty revisions for weight gain and suspected pouch enlargement. The original VBG's were done prior to May 1984 and, thus, all had relatively large pouch size (mean 37.8 cc's, range 30-60 cc's). 16 of 20 patients had preop Upper GI series with pouch size measuring from 3x6 cm to 5x10 cm. This translates to volume ranges from 54-302 cc's. Actual volume measurements at surgery, however, ranged from 90-1500 cc's with a mean of 467.5 cc's.

It is concluded that the hypothesis that Upper GI series measurements accurately reflect pouch size is erroneous and that no such correlation exists.

NOTES
FRIDAY, JUNE 3, 1988, 8:00 a.m.

POSTER #12: RADILOGIC FEATURES AFTER VERTICAL BANDED GASTROPLASTY

Mervyn Deitel, M.D., Roger Leekam, M.D., Lilitha Shankar, M.D., Barry B. Salsberg, M.D.
Departments of Diagnostic Imaging, Surgery and Nutritional Sciences, University of Toronto, St. Joseph's Health Centre, Toronto, Canada

Of 698 VBG patients, 121 were referred to rule out abnormality. In the first 564, TA90 was applied twice to give 2 double rows of staples, which were occasionally not parallel on plain film. A preliminary plain film was taken in RPO position usually, but in any position in which the staples were well seen. Following inspection of staples, a single contrast study was performed. Small amounts were ingested with the patient in 45° RPO, with attention to the partition and outlet.

1) Abnormalities of the partition: Defects in one staple-line were observed on 4 plain films; in all 4, barium passed through the defect to the space between the staples. In 5 patients, defects in both staple-lines were seen on plain film and on contrast studies as a short-circuit from pouch to fundus. Flow through the full-thickness defect in 2 patients was so large that the channel was bypassed. Postoperative edema is present as a wide distance between the pouch and staple-line, resolving in 3-4 wk. If the upper end of the staple-line was lateral to the angle of His, a pseudodiverticulum resulted.

2) Banded outlet abnormalities: Stenoses were seen as a narrow channel with delayed passage of contrast. Erosion of the mesh (2 patients) was seen as a disruption of the staple-ring on plain film and by a "double channel" on contrast exam, caused by the mesh within the channel.

3) Ulcers and leaks: Ulcers were seen in 3. Extragastric leak of contrast was seen in 3, 2 after revision of Gomez gastroplasty to VBG.

Since 1986, the TA90B has been used for 4 parallel rows, which cannot be separated on the plain film; no defects have been seen yet.

NOTES
FRIDAY, JUNE 3, 1988, 8:00 a.m.

POSTER #13: INFLATABLE SILICONE GASTRIC BANDING: NEW METHOD PROVIDES IMPROVED WEIGHT LOSS AND EASIER STOMAL ADJUSTMENT

Lubomyr I. Kuzmak, M.D., Sc.D.
Private Practice, Livingston, New Jersey

Silicone gastric banding with an inflatable band (ISGB) is a safe bariatric procedure that produces a rapid weight loss while providing an effective nonsurgical method of revising stoma size. Unlike traditional gastric bariatric surgeries, ISGB involves no cutting or crushing of either the stomach or the small intestine. With the placement of the silicone band, creation of a small meal-sizing pouch with a reinforced small stoma is done in a single step. Recently, the silicone band that had been in use since 1983 was modified by adding a 4 cm inflatable area. This area is connected by nonkinking tubing to a small self-sealing reservoir that is placed in the right anterior rectus sheath. When the need to alter the stoma size occurs, the change can be accomplished quickly and easily with no surgery involved. After locating the radiopaque reservoir on an X-ray, sterile saline can then be injected or withdrawn to modify the stoma size. The change takes approximately five minutes to perform. This ability to change the stoma size without reoperating can be very useful in patients who are experiencing excessive vomiting or have had a less than satisfactory weight loss. To date, ISGB have been done in 33 patients who were undergoing their first bariatric procedure. There are only 12 patients, all females, who are six or more months postoperative. At six months postoperative, these patients, who preoperatively weighted a mean 225% of ideal, have lost an average of 33.2 kgs or 46.8% of their excess weight. The six-month absolute weight loss was significantly greater than that observed in 99 females with a noninflatable band (NISGB) (33 kgs vs 24 kgs, p=0.005). Also, there was a trend toward the six-month percent excess lost by the ISGB to being significantly greater than that lost by the NISGB (46.8% vs 37.8%, p=0.086). Presently, the only two ISGB patients eligible to have one-year follow-up have lost 82.6% and 96.9% of their excess weight respectively. The significantly improved absolute weight loss along with the ability to change the stoma size nonsurgical makes inflatable silicone gastric banding attractive to use as either a primary or revisional procedure when treating extreme obesity.

NOTES
FRIDAY, JUNE 3, 1988, 8:00 a.m.

POSTER #14: PATHOPHYSIOLOGICAL IMPLICATIONS OF CHANGES OF STOMACH SIZE AND INTESTINAL LENGTHS IN BILIOPANCREATIC DIVERSION

Nicola Scopinaro, M.D., Ezio Gianetta, M.D., Daniele Friedman, M.D.  
Department of Surgery, University of Genoa School of Medicine, Ospedale S. Martino, Genova, Italy

In BPD weight loss (WL) is mainly due to a temporary food intake limitation and weight maintenance (WM) to a persistent selective malabsorption. The first mechanism is based on rapid gastric emptying of a little stomach into an ileal loop, causing calibrated restriction of appetite and postcibal syndrome. A 12 year experience has shown that best WL with minimum of complications are obtained with 400 ml gastric volume in patients with excess weight up to 120% and 200 ml in those exceeding 120%, emptying through a GEA as wide as possible into an ileal stump 250 cm from the ileocecal valve (ICV). A greater stomach would attenuate this mechanism, thus causing a smaller WL. The same would result from elongating the alimentary tract (LT) with a more proximal ICV or, even more, from interposing a jejunal loop between stomach and ileum. On the contrary, to reduce stomach size would cause an increase of intensity and duration of the mechanism for food limitation with consequent excessive WL and unacceptable incidence of protein malnutrition. Similar effects would result from a GEA restriction. The second mechanism consists of diversion of biliary and pancreatic juices into the terminal ileum 50 cm from ICV, which causes a selective fat and starch malabsorption for WL and a partial interruption of the enterohepatic bile salt circulation for permanent lowering of serum cholesterol with minimal diarrhea, while allowing some absorption of proteins, which are mainly digested and absorbed in the colon, and an acceptable vitamin A absorption. The consequences of shortening or elongating of the common tract are then obvious. Elongation of the AT would not significantly increase protein and calcium absorption, and, besides reducing the postcibal effect, would increase starch absorption, with smaller WL and difficulties in WL. Modifications of the standard technique of BPD are to be considered experimental surgery, should have a rationale and should be performed only in centers where accurate comparative follow-up studies are feasible.

NOTES
POSTER #15: THE IMPORTANCE OF POUCH SIZE AND LIMB LENGTH IN GASTRIC REOPERATIONS

Jose C. Torres, M.D.
Private Practice, Clark County Memorial Hospital, Jeffersonville, Indiana

Twenty-six patients (one male), mean age 41 yrs., with prior lesser curve gastroplasty (GP) (n=11) or loop or Roux-en-Y proximal, greater curve, gastric bypass (GB) (n=15) were reoperated with Distal Roux-en-Y gastric bypass. Mean excess weight for GP was 92% and for GB was 64%. At follow-up 12 months after reoperation, patients with 35-50 cc pouches had reduced to 20% excess weight compared to 23% in patients with pouches 120 cc. Two of the patients who are compulsive snackers with large pouches have failed to reduce below a level of 80% excess weight. Two patients have dumping, one has stomal stenosis and there has been one wound infection. One patient who started gaining weight nine months after surgery was found to have a gastro-gastric fistula, for which she has had surgery. So far it seems as if a large pouch needs to be corrected concomitantly with shortening the alimentary limb in gastric reoperations.

NOTES
FRIDAY, JUNE 3, 1988, 10:00 a.m.

POSTER #16: RESULTS OF WEIGHT LOSS ON OSTEOARTHRITIS IN THE MORBIDLY OBESE PATIENT

Mervyn Deitel, M.D., Ramunas J. F. Saplys, M.D., Brian McGoey, M.D., Michael E. Kliman, M.D., Mansour Bendago, M.D.
Departments of Surgery, Nutritional Sciences and Orthopedics, University of Toronto, St. Joseph's Health Centre, Toronto, Canada

Using a questionnaire, 105 consecutive patients over a 12-month period who underwent VBG were surveyed regarding joint problems preoperatively and after wt loss had stabilized. Of the patients, 13 (12.4%) had no joint pains (age 28±7 yr). However, 92 patients (87.6%) complained of joint pains (age 38±12 yr - one lost to follow-up and excluded). Preoperatively, of the 91 remaining patients, pain involved 1 joint in 12 (13.2%) and multiple joints in 79 (86.8%). Painful joints were low-back 64 patients (70.3%), knees 59 (64.8%) with "giving way" in 6, ankles and feet 41 (36.3%) with "giving way" in 6 and hips 11 patients (12.1%). Fifteen had seen an orthopedist or chiropractor in the past, and 7 had previous orthopedic surgery (knee cartilage 3, low-back 2 and ankle fractures 2).

Of the 91 patients, 84 had loss of ≥50% of excess wt; joint pains disappeared in 69, became mild or infrequent in 10 and persisted in 4 (3 who continued disability pensions). Of 14 patients on NSAI drugs, 12 stopped these. Preoperative x-rays often showed degenerative disc disease or findings of early osteoarthritis in knees or ankles with narrowing, sclerosis and spurs, and frequently did not correlate with the degree of discomfort. X-ray findings did not change postoperatively. In all 7 patients who lost only 25-49% of excess wt, lessening or disappearance of discomfort was claimed.

Osteoarthritic complaints were common in wt-bearing joints, and reducing stress-loading by wt loss decreased the frequency and severity of symptoms. Wt loss led to stable ambulation and increased activity.

NOTES
Pulmonary complications are common after abdominal surgery especially in the morbidly obese patients. The Function Residual Capacity (FRC) is an accurate measure of changes in alveolar ventilation. The purpose of this study was to quantitate pulmonary function in the morbidly obese by measuring the FRC at the bedside. This was carried out with a portable closed circuit spirometer using helium dilution technique. Measurements were performed on 16 morbidly obese patients before and after vertical banded gastroplasty, both sitting in bed (BED) and sitting in a chair (CHAIR).

<table>
<thead>
<tr>
<th></th>
<th>Preop</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>BED</td>
<td>2.52±20</td>
<td>1.61±13*</td>
<td>1.67±12*</td>
<td>1.74±15*</td>
<td>2.03±13*</td>
<td>2.17±20*</td>
</tr>
<tr>
<td>% of preop</td>
<td>100</td>
<td>69±5</td>
<td>69±5</td>
<td>73±5</td>
<td>84±6</td>
<td>91±5</td>
</tr>
<tr>
<td>CHAIR</td>
<td>3.09±18#</td>
<td>2.28±13*#</td>
<td>2.15±13*#</td>
<td>2.27±13*#</td>
<td>2.46±14*#</td>
<td>2.57±19*#</td>
</tr>
<tr>
<td>% of preop</td>
<td>100</td>
<td>75±4</td>
<td>72±5</td>
<td>77±4</td>
<td>83±5</td>
<td>86±5</td>
</tr>
</tbody>
</table>

* significantly (p<.05) different from preoperative by analysis of variance
# significantly (p<.05) different from bed by analysis of variance

These data demonstrate that there is a significant decrease in FRC which is persistent up to day 3 postoperatively. From the third day, FRC increases but is still not normal by day 5. In addition the FRC was significantly less for each day when the patient was in bed as compared to sitting. Thus a morbidly obese patient will have a significant 31% decrease in FRC following gastroplasty which lasts for up to three days and is improved if the patient is sitting in a chair. In addition, such portable measurement of FRC can provide a useful means of quantitating the changes in pulmonary function during the postoperative period.
Linear brain parameters were measured by CT in 19 patients with morbid obesity (mean weight 126.4 ± 20.5 kg) and 20 age and sex matched normal weight subjects (mean weight 62.6 ± 14.9 kg). Ventricular parameters were slightly smaller and cortical parameters were slightly larger in the preoperative obese than in control subjects.

However, only the "four cortical sulci ratio" was significantly different in the two groups (p=0.02).

After bariatric surgery and drastic weight loss (mean postoperative weight 82.9 ± 27.4 kg), all the ventricular and cortical parameters increased, with significant change in the frontal interhemispheric fissure ratio (p<0.05).

Obese patients followed for 23 months after surgery had less striking changes than those followed for 6 months. Morbidly obese subjects have altered brain CT dimensions which are partly reversible after weight correction.
FRIDAY, JUNE 3, 1988, 11:00 a.m.

IMPORTANCE OF REGIONAL DISTRIBUTION OF ADIPOSE TISSUE

David S. Freedman, Ph.D., Distinguished Guest Speaker
Division of Biostatistics and Epidemiology, Medical College of Wisconsin,
Milwaukee, Wisconsin

NOTES
FRIDAY, JUNE 3, 1988, 1:00 p.m.

POSTER #19: ROUX-EN-Y DISTAL GASTRIC BYPASS: A MODIFICATION OF THE BILIO-PANCREATIC DIVERSION FOR TREATMENT OF OBESITY

Mathias A. L. Fobi, M.D., Hoil Lee, M.D., Perry Montoya, M.D., Deinso Gillis-Harry, M.D.
Department of Surgery, King-Drew Medical Center, Los Angeles, California

Sixty-seven patients from March 1986 to November 1987 have had the distal Roux-Y Gastric Bypass, a modification of the Biliopancreatic Diversion, for treatment of their obesity. The gastric pouch 50 to 150cc was partitioned with four rows of TA90 and/or transected. The stoma was 1.2 cm wide. The common tract was fixed at 150cm and the alimentary tract varied from 90 to 120cm. This surgery was used mostly as a revision procedure for unacceptable outcome from other bariatric procedures. Thirty-six patients had had a VBG. Of these, 25 were revised because of inadequate weight loss or weight regain, 7 because of stenosis, 3 because of leaks and 1 because of patient's request. Fourteen of the patients had had a gastric bypass, 3 had had a silastic ring and 9 patients had the procedure as a primary procedure. Of the 9 primary procedures, 3 were super obese, 300% of ideal weight, 3 were of Mexican origin, considered nibblers, and 3 were older than fifty-five and had dental problems. Thirteen of 67 patients had severe perioperative complications which included 1 massive pulmonary embolus, 1 small bowel obstruction, 4 intra-abdominal abscesses, 4 gastric leaks with peritonitis and fistulas, 2 splenectomies and 1 death. Long term complications include four documented cases of marginal ulcers, 34 cases of protein malnutrition and 6 cases of neurological alterations due to rapid weight loss requiring hospitalization. Ten of the 67 patients required reoperation for related complications. There have not been any late deaths. Weight loss results have been as reported with BPD at 6 months, 12 months, 18 months. Roux-Y Distal Gastric Bypass, a modification of the more drastic BPD, is effective for treating obesity which is unresponsive to the simple gastroplasty or gastric bypass. Patients with these procedures should be monitored closely for nutritional deficiencies that may occur.

NOTES
Bariatric surgeons are the only therapists involved in the treatment of obesity who are willing to disclose the results of their treatment; all others carefully avoid publishing their long-term results. The purpose of this paper is to evaluate the long-term effects of a gastric partitioning procedure. Specific subgroups (race, sex, age, superobesity) will be studied.

Six hundred four vertical gastroplasties have been done by a bariatric surgeon in private practice, 277 patients have been followed a minimum of 3 years and a maximum of 7 years. A 15cc pouch and 8mm reinforced stoma were placed in each patient. At 3 years, 74% of the patients had maintained a weight loss of at least 50% of their excess weight. At 5 years, 54%, and at 7 years, 48%. The "lost to follow-up" rate was 14%, 17%, and 55% respectively. At 3 years, 54% had maintained a loss of 70% of their excess weight; at 5 years, 36%, and at 7 years, 33%. At 3 years, 18% had maintained a loss of 90% of their excess; at 5 years, 14%; and at 7 years, 12%.

Separate calculations for race-specific, sex-specific, and age-specific weight loss are being done. The super obese will be compared to the morbidly obese.

Gastric partitioning is effective in accomplishing permanent, significant weight loss. It is from 10 to 20 times more likely to succeed than any nonsurgical form of therapy.

NOTES
POSTER #21: VERTICAL BANDED GASTROPLASTY: SIXTH YEAR RESULTS

Edward E. Mason, M.D., Ph.D., David H. Scott, James W. Maher, M.D., Evelyn M. Rodriguez, Cornelius Doherty, M.D.*, Thomas J Blommers, Ph.D.*
Department of Surgery, University of Iowa Hospitals and Clinics, Iowa City, Iowa and *Private Practice, St. Francis Hospital, San Francisco, California

In keeping with past reports, the most current information about weight loss along with revision rates from the two oldest Vertical Banded Gastroplasty series will be presented.
POSTER #22: MALABSORPTIVE PROCEDURES AFTER FAILED GASTROPLASTY

Sherman Tang, M.D., John G. Kral, M.D.
College of Physicians and Surgeons of Columbia University, and St. Luke's-Roosevelt Hospital Center, New York, New York

In a group of 32 morbidly obese women [126.5±3.8 kg (mean±SEM), 162.4±1.3 cm] observed for a mean 30 months after vertical banded gastroplasty (VBG), 9 had duodenoileal bypass (DIB) at a weight of 102.3±6.9 kg, a mean 27 months after VBG due to weight loss failure. Mean weight loss in the 32 months after DIB was 30.1±6.2 kg or 71.3±7.6% of excess weight prior to DIB. This corresponds to 83.1±5.4% of their original (pre-VBG) excess weight. Three patients had revisions, two for excessive and one for insufficient weight loss. Another group of 24 women (122.7±3.3 kg/164.3±1.4 cm) observed for a mean 26 months after primary DIB have lost 38.3±3.1 kg or 61.1±3.8% of excess weight. Two patients have had nipple valve reconstruction at the time of abdominoplasty. Approximately 50% of patients in each group with DIB have required hospitalization for electrolyte imbalance in spite of routine prescription of supplements. No serious complications have been identified by monitoring body composition, liver biopsies and vitamin status. A staged approach using a malabsorptive procedure after failed gastric restriction might be the strategy of choice in obesity surgery.
ADDITIONAL ABSTRACTS

INVITED FOR POSTER PRESENTATION
MARLEX MESH EROSION IN VERTICAL BANDED GASTROPLASTY

Y. M. S. Bushan, M.D., Anne Bushan, Patient Counselor
Private Practice, Davenport, Iowa

300 cases of Vertical Banded Gastroplasties done by the author from 1983 to 1987 are reviewed. Early half of these patients had the Gortex mesh, while the recent half had the Marlex mesh around the new stoma of the Mason type of Vertical Banded Gastroplasty. The Marlex mesh margins are "Heat Sealed" so that the cut frail edges are sealed to prevent any possible damage to the tissues. The mesh used has been 1.5 cm. wide and 5 cm. in circumference. Three Prolene or Gortex sutures in the mesh were used in a triangular fashion to hold it together, without suturing through the gastric wall. Similar sutures were used to control the bleeding in the gastric window. The size of the pouch has been averaging about 30 cc during 1983-84 and since then it has been about 16-18 cc.

Seven known patients had problems with the mesh and six were reoperated for mesh complications. Three had erosions through the full thickness of the gastric wall, while the other three caused narrowing of the stoma. The last one had enormous pouch dilatation and as a result caused kinking at the stoma, in the same fashion you would see in a large Zenker's Diverticulum. Five patients had Marlex mesh while the other two had Gortex mesh. Two Marlex Mesh and One Gortex mesh were eroded through the full thickness of the gastric wall at the new stoma. Marlex mesh eroding the full thickness of the gastric wall and part of the mesh was visible inside the stoma. The Gortex mesh had completely eroded the full thickness of the gastric wall, hanging free in the gastric lumen. The whole ring of Gortex mesh was fully intact with the triangular holding sutures, the only thing holding this mesh to the stoma was a loop of '00' prolene suture used for the control of bleeding in the gastric window. One Gortex mesh and two Marlex mesh had produced the narrowing of the stoma and hence they had to be removed in two, while one marlex narrowing was dilated effectively. There was no erosion secondary to the mesh in these three cases of stenosis.

The summary includes the discussion and the possible causative factors of the erosion of the gastric stoma by the mesh. The author also invites the other surgeons to participate in a combined study of any mesh related complications occurring in Vertical Banded Gastroplasties.
"NEW PREMIUM EEA" FROM AUTOSUTURE WITH "BUILT IN" TROCAR NEEDLE

Y. M. S. Bushan, M.D.
Private Practice, Davenport, Iowa

30 cases of Vertical Banded Gastroplasties done by the author since the release of the New Premium EEA with "built in" trocar needle and "clip on" anvil. Though this instrument is specially built for low rectal anastomosis, it not only reduces a few steps in Vertical Banded Gastroplasty, but also prevents problems with incomplete threading of the anvil, while making of the gastric window.

The differences between the old EEA with threadable anvil and the New Premium EEA with "built-in" trocar needle and "clip on" anvil are discussed.

Further, the technique of using this unique instrument is shown in sequential diagrams. You can completely avoid the usage of the treacherous long metal trocar and the rubber catheter. Using this instrument at first, may appear clumsy. But with adoption and experience this new instrument for gastric window, appears to be a very useful tool for Vertical Banded Gastroplasty.

STAPLE DISRUPTION IN VERTICAL BANDED GASTROPLASTY

Y. M. S. Bushan, M.D., Anne Bushan, Andrew E. Berkow, M.D.
Mercy Hospital, Davenport, Iowa

300 cases of Vertical Banded Gastroplasties done by the author from 1983 to 1987 are reviewed. All of these patients had 4 rows of staples from the gastric window to GE junction. Half of these patients had 2 double rows of staples (each double row applied twice), while the other half had application of a single cartridge of 4 rows applied once, from TA 90-B stapler from Autosuture.

We had 6 patients with staple disruptions. Brief information on each patient is discussed. 5 of these patients have been re-stapled and have continued to lose weight. 6th patient has refused surgery, since she has lost over 70% of her excess weight and wants to maintain her weight with calorie counted controlled diet.

All the possible causes of gastric stapling disruptions are discussed. Diagnosis of early staple disruptions are quite difficult to recognize. Only Cine-Video studies will help diagnose these early staple disruptions. One would ordinarily miss these early disruptions with a routine barium swallow. Author would like to have input from the other gastroplasty surgeons in this matter, especially the causative factors.
THE IMPORTANCE OF "IN-HOSPITAL" PREPARATION BEFORE GASTRIC STAPLING

Y. M. S. Bushan, M.D., Anne Bushan
Private Practice, Davenport, Iowa

Method: The incidence of sudden death due to Pulmonary Emboli and the incidence of severe wound infections, historically are high following surgery with the Obese Patients. The importance of pre-operative care and "in-hospital" preparation should not be overlooked especially in Morbidly Obese, where these complications are higher especially with Gastric Stapling surgery. In addition, these patients are very difficult to manage pre-operatively as well as post-operatively. Besides getting the patient to comply with some of the routine preparations, the complications of Pulmonary embolism and severe wound infection could be minimized with such "in-hospital" preparation.

Over 300 cases of Vertical Banded Gastroplasties done by the author from 1983 to 1987 are reviewed. All these patients were admitted, a day prior to their surgery at about 8.00 am. They were seen by the Gastroplasty Nurse, Dietitian, Physical therapist, Pulmonary technician along with the clinical nurse. Routine instuctions were given along with the showing of the Gastroplasty Video.

Pulmonary care instructions were given during this pre-operative day. Incentive spirometry was started every 4 hours. Both calves were measured daily for any change in size. Ted elastic stockings were applied on the floor. Active walking for 10-15 minutes, every 2 hours was started soon after admission. While stationary, active ankle exercises were also taught. Most importantly, an IV infusion of solution containing 5% Dextrose was started for atleast 15 hours prior to surgery, to minimize the complications of Pulmonary Emboli and sudden death (Mason E.E.et al-Fatty acid toxicity). Also the Kendall's sequential pneumatic stockings were used during and after surgery for first 24 hours and active walking round the clock, every 4 hours post operatively.

Instructions were given to minimize wound infection. Hibiclens bath was given every 12 hours, a total of 3 baths before surgery. The skin creases were dried with electric blow dryer. Post operatively a bath-shower was started on the third day. Oral hygiene instructions and a mouth wash gargling were instituted. Oral Erythromycin liquid was started, every 6 hours pre-op for 24 hours, to control the gastric contamination. Pre-op and 24 hour Post-op IV antibiotics were also given.

Results: Out of over 300 cases one patient had a small segmental pulmonary embolism during her hospitalization. This patient had history of previous pulmonary emboli. None others had any embolic complications during their 6 weeks post-op care. We had no post operative death due to Pulmonary Emboli. Another patient had deep vein thrombosis of one of the lower legs during the 3rd week. None of the patients had intra-abdominal sepsis or leak. However 5 patients had superficial wound absceses, which needed drainage and antibiotics.

Conclusions: 24 hour pre-operative "in-patient" care, is very important in preventing serious life threatening complications, following Morbid Obesity surgery. It is our responsibility to educate the insurance companies to understand this important aspect of the medical care, of these most neglected group of patients.
VERTICAL BANDED GASTROPLASTY IN A COMMUNITY HOSPITAL

Rafael F. Capella, M.D.
Private Practice, Good Samaritan Hospital, Suffern, New York

502 cases of Vertical Banded Gastroplasty (VBG) were performed by the author in a community hospital with no mortality and very low morbidity.

The 502 cases were performed between September 1982 and November 1987. There was no mortality and only four patients had major surgical complications: two leaks, one spontaneous rupture of the stomach and one pancreatitis. There were no wound infections, wound dehiscences, pulmonary emboli or splenectomies.

VBG is a safe and effective operation. The mortality and morbidity can be extremely low if performed by an experienced surgeon. As the safety of the operation increases gastric reduction surgery could be indicated for individuals with an excess weight of less than 100 lbs.
AN EFFECTIVE TECHNIQUE FOR REVISION OF THE GASTROJEJUNOSTOMY IN GASTRIC BYPASS

James E. Colberg, M.D.
Department of Surgery, Jefferson Medical College, Philadelphia, Pennsylvania

Gastric bypass remains the preferred technique for morbid obesity at Thomas Jefferson University Hospital. This consists of a stapled proximal pouch of 30-60cc with a loop gastrojejunostomy of 12mm and a stapled jejuno-jejunostomy. Despite the shortcomings of the gastric bypass technique, principally operative complexity and iron deficiency in some patients due to bypass of the duodenum, in our hands it has been effective with a remarkably low incidence of complications. Sugerman has presented evidence that the operation is more effective than vertical banded gastroplasty in sweets eaters.

One of the intermediate to long-term complications of gastric bypass is dilatation or stenosis of the gastrojejunostomy. Most of the stenotic anastomoses can be dilated using a balloon via endoscope as described by Wolper, et al.

When operative intervention is required, we have found attempts to dilate directly a stenosis or to reef up a dilatation rarely have been effective.

After trial and error a simpler method has evolved with good success in the seven patients in whom it has been used.

After exploration and release of adhesions, an anterior jejunotomy is made and the gastrojejunostomy is inspected directly. The stenosed or dilated gastrojejunostomy is closed completely, preferably in two layers. The jejunal loop is rotated anteriorly and a new gastrojejunostomy is created, sized to 12mm in most cases, and sutured using eight equidistant 4-0 Vicryl sutures. The nasogastric tube is placed according to the Mason technique. A new anterior seromuscular layer of 3-0 silk is employed to complete the anastomosis.

This technique has proved both simple and effective.
Like Atkinson et al. (Ann Int Med 89:491, 1978), we observed abnormally high serum copper concentrations in many morbidly obese patients before surgery. We questioned whether these were expressions of other abnormalities of copper and zinc in this population. Plasma concentrations, as well as 24-hour urine excretion of zinc and copper were measured in 27 morbidly obese patients prior to obesity surgery. During surgery, excisional liver biopsies were obtained from these same subjects and were analyzed for copper and zinc. All copper and zinc analyses were performed according to the methods published from our laboratory (Analytical Letters, 17:1567, 1984). Results (Mean±SEM)—serum Copper: 143±9 μg/dl, serum Zinc: 83±4 μg/dl, urine Copper: 55±5 mg/24h, urine Zinc: 805±89 mg/24h, liver Copper: 46±5 μg/kg fat free dried tissue (FFDT), liver Zinc: 251±13 μg/kgFFDT (Our laboratory's established normal ranges are 75-100 μg/dl for serum Zinc, 70-140 μg/dl for serum Copper, 15-60 mg/24h for urine Copper and 140-800 mg/24h for urine Zinc). Single and multiple linear regression analyses revealed, at best, a very weak correlation between any of these variables.

Conclusion: In the morbidly obese population, serum Zinc and serum Copper concentrations are unlikely to have any significant correlation with the concentrations of these trace elements excreted in the urine or present in the liver tissue. Additional serum, urine and tissue Manganese, Selenium and Chromium analyses are currently being performed for concurrent reportage.
THE MEDICAL ASSISTANT'S ROLE IN "INFORMED CONSENT"

C. Anne Eads, CMA
Private Practice, Houston, Texas

The doctrine of "informed consent" requires that a patient be made aware of the common and substantial risks of a procedure before his consent is valid and "informed". A well informed patient is less likely to have unrealistic expectations and thus less likely to sue. An atmosphere of open and candid communication between physician and patient should be created. Medical assistants can help to create and maintain an open, relaxed and comfortable atmosphere. Before a patient agrees to medical care or a surgical procedure which requires disclosure, the physician should familiarize him or her with the treatment and its risks. Oftentimes, physicians will delegate the responsibility of obtaining informed consent to medical assistants who are knowledgeable about the proposed treatment and who are qualified to discuss it with the patient. Guidelines for obtaining informed consent will be presented.

The medical assistant, acting as an agent for the physician, can play a vital role in educating the patient regarding the risks of bariatric surgery and the realistic expectations of surgery.

GASTRIC BYPASS VERSUS VERTICAL BANDED GASTROPLASTY: 1988 UPDATE

William M. Headley, M.D., Joyce Headley
Private Practice, Milledgeville, Georgia

No abstract available.
Complete division and separation of the stomach between staple rows is necessary to create a nondisruptible staple line. Stapled partitions have a break through rate of up to 25%, resulting in a failed operation. Double and triple applications, use of the TA90-B, and even division with resuture, have all had failures. The cut mucosal edges must not touch or they will heal together and lead to staple row failure ('crossover'). Dividing the stomach and separating the mucosal edges also reduces the need for revisions, and makes necessary revisions easier. The first table, grouped by months after surgery, compares surgery types to results. The second compares types to crossovers. Both tables include percent follow-up.

<table>
<thead>
<tr>
<th>type</th>
<th>no. pat's</th>
<th>months</th>
<th>% satfct</th>
<th>% unsatfct</th>
<th>% good followup</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBG</td>
<td>33</td>
<td>55 (13-76)</td>
<td>60</td>
<td>40</td>
<td>36</td>
</tr>
<tr>
<td>BFE</td>
<td>58</td>
<td>52 (36-70)</td>
<td>86</td>
<td>13</td>
<td>60</td>
</tr>
<tr>
<td>BFED</td>
<td>56</td>
<td>56 (17-56)</td>
<td>87.5</td>
<td>12.5</td>
<td>64</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>type</th>
<th>no. pat's</th>
<th># crossover</th>
<th>% crossover</th>
<th># redo</th>
<th>% redo followup</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBG</td>
<td>33</td>
<td>6</td>
<td>18</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>BFE</td>
<td>117</td>
<td>26</td>
<td>22</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>BFED</td>
<td>62</td>
<td>7</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BFED/2</td>
<td>42</td>
<td>6</td>
<td>14</td>
<td>1</td>
<td>2.3</td>
</tr>
</tbody>
</table>
Surgical risk of obesity patient is high and is accelerated by increasing their body weight, because of high incidence of severe complication, such as hypertension, diabetes mellitus, coronary disease, pulmonary dysfunction, hepatic insufficiency, etc. To reduce the surgical risk, 36 morbid obesity patients (109 ± 19 kg, 204 ± 25%, IBW) were managed with protein sparing modified fast (PSMF) for two weeks preoperatively. The PSMF contains 550 kcal/day of energy, which consist of 61.6 g/day of protein, 4.8 g/day of fat, 65.6 g/day of carbohydrate and all minerals and vitamins enough to supply RDA. Body weight reduced to 99.9 ± 18 kg after PSMF, without decreasing nitrogen balance (-1.0 ± 0.7 g/day to -0.7 ± 0.6 g/day) and serum albumin level (4.4 ± 0.3 g/l to 4.6 ± 0.2 g/l). Accordingly, elevated blood pressure, fasting blood sugar, total cholesterol, triglyceride and phospholipid in the serum of the patients reduced significantly enough to minimize the surgical risk of them.

Significant elevation of serum uric acid level (6.25 ± 1.55 mg/dl to 8.24 ± 3.06 mg/dl) was the only dread change by this management, but no special problem on the following operation and the post operative course were observed without any treatment.

We concluded that two weeks of protein sparing modified fast before operation was effective and safe, enough to adopt routine preoperative management of bariatric surgery.
The need for concomitant cholecystectomy in the morbidly obese patient undergoing vertical banded gastroplasty has never been clearly determined. Twenty-two morbidly obese patients routinely underwent preoperative evaluation of their biliary tract. This included a comprehensive history looking for signs and symptoms of biliary colic, an ultrasound of the right upper quadrant and a DIDSIDA scan with ejection fraction. At the time of surgery, the appearance of the gallbladder was carefully recorded. All patients routinely underwent cholecystectomy concomitantly with their vertical banded gastroplasty. Each gallbladder was subjected to routine pathologic examination. This result was correlated with the preoperative and intraoperative findings in an attempt to determine which factor(s) was (were) most useful in selecting those patients in whom cholecystectomy was required. Our results indicated that there was no absolute correlation between any specific preoperative study or intraoperative finding and the subsequent gallbladder pathology.
The third National Bariatric Surgery Registry (NBSR) data analysis included 938 patient records submitted from 17 NBSR members. Data collection was done on IBM or IBM compatible personal computers using NBSR data collection software version 2.2 or 2.3. Mainframe descriptive analyses were performed on an IBM 4381 mainframe computer using the Statistical Analysis System (SAS) programming.

Patient records included in the analysis met specific criteria. They were: 1) Patients with primary bariatric operative procedures performed on or after 1 January, 1986. 2) All patients were 18 years of age or older. 3) NBSR required fields (page 27 of the NBSR Instruction Manual) were complete and within established ranges.

Patients studied averaged 37.7 years of age, mostly female (89%) and morbidly obese (75%). Mean age of male patients was 1.7 years older than females, when the primary bariatric procedure was performed.

Of the primary bariatric procedures studied, 281 were Roux-gastric bypass and 677 were vertical banded gastroplasty. 63% of the physicians used Marlex Mesh to reinforce the gastric stoma. Fascia wound closure was primarily performed by using a running stitch (95%) of absorbable suture (78%). Clips and staples were used by 85% of the physicians for skin wound closure.

More data is needed to evaluate specific questions of interest to the bariatric surgeon.
USE OF NEEDLE CATHETER JEJUNOSTOMY IN BARIATRIC SURGERY: AN AID TO POSTOPERATIVE MANAGEMENT

Lynn Pfannerstill* and Michael G. Sarr, M.D.**
Department of Nutrition* and Surgery**, Mayo Medical Center, Rochester, Minnesota

Prolonged intravenous access can be a major problem in the morbidly obese patient following bariatric surgery and may require central venous catheterization. **AIM:** To evaluate the use of needle catheter jejunostomy (NCJ) for administering fluids, medications, and nutrition after bariatric operations. **METHODS:** Needle catheter jejunostomy was used in 45 patients postoperatively: VBG-33 patients; gastric bypass-2 patients; redo bariatric procedures-10 patients. Feeding with electrolyte solution (15 patients) or nutrient solutions (Osmolyte®) (30 patients) was begun the night of surgery. Volume of NCJ feedings was advanced gradually until maintenance and replacement volume was reached. The intravenous catheter was then removed. Our patients are not allowed oral intake for at least 5 days postop. **RESULTS:** There were no serious complications related to the NCJ. One patient developed a small subcutaneous abscess at the skin exit site; three other patients developed easily-controlled diarrhea. All maintenance and replacement fluids and electrolytes were administered via the NCJ, allowing the IV catheter to be removed 2+1 day postoperatively. 27 patients received enteral nutrition (mean 1600 Kcal/day) for 10+2 days, and all medications whenever pharmacologically possible were administered via the NCJ. **CONCLUSIONS:** NCJ facilitates postoperative care of selected patients following bariatric procedures allowing safe administration of fluid, electrolytes, medications, and nutrition. This technique should be strongly considered in patients with minimal IV access and in redo bariatric procedures.

EIGHTH ANNUAL SURGEONS QUESTIONNAIRE

David H. Scott, Edward E. Mason, M.D., Ph.D., Thomas J Blommers, Ph.D.*
Department of Surgery, University of Iowa Hospitals and Clinics, Iowa City, Iowa and *Private Practice, St. Francis Hospital, San Francisco, California

The results from the Eighth Annual Surgeons Questionnaire on methods of performing bariatric surgery will be presented. Since the questionnaire will be distributed with American Society for Bariatric Surgery program notice, there is no data available at this time, 12/15/87.
GASTRIC RESERVOIR REDUCTION USING FENESTRATED SILICONE POUCH

Lawrence H. Wilkinson, M.D., O. A. Pelosa, M.D., R. L. Milne, M.D.,
Private Practice, Albuquerque, New Mexico

No abstract available.