Butter — 1 square, or mayonnaise or oil — 2 teaspoons; Milk—1 cup.

Dinner:

Lean meat, fish or fowl—1 medium serving (¼ pound raw); Potato—1 small (size of egg), or bread—1 slice, or noodles, rice, corn, or beans—½ cup; Vegetables—2 generous servings (2 cups); Butter — 1 square; Fruit — 1 serving.

One serving fruit: ½ grapefruit, 1 small orange, 1 cup fresh berries, (no loganberries), ½ cantaloupe, ½ slice watermelon (1½ inches thick), 3 apricots, 1 small peach, 2 plums, 2 thin slices fresh pineapple, ½ medium apple, 3 nectarines, ½ medium pear, 2 figs, ½ banana, 1 cup grapefruit juice, 1 cup tomato juice, ½ cup orange juice, ½ cup pineapple juice, ⅓ cup dried cooked apricots or prunes (when stewed without sugar).

May take: Clear soup, plain tea or coffee with any meal. Saccharin (¼ grain) may be used for sweetening, if desired. Any kind of bread may be used, but only in the amounts specified.

Avoid: Sweets, such as sweetened canned fruit, honey, sugar, all desserts, and fruits which are not listed here.

It is important not to eat larger helpings than those listed here.

III. Diet: 2062 Calories

Carbohydrates 220 Gm.; Protein 93 Gm.; Fat 90 Gm.

Breakfast:

Fruit—1 serving; Cereal—3 tablespoons (dry measure before cooking); Milk—1 standard measuring cup (or ½ cup canned milk); Bread—1 slice; Butter—1 pat; Egg —1.

Lunch:

Meat, fish or cheese or eggs—1 small serving (⅛ pound = 2 oz.); Vegetables (raw or cooked)—1 generous serving (1 cup); Bread—2 slices; Butter, mayonnaise, or oil—2 pats, or 4 teaspoons; Fruit—1 serving; Milk—1 cup.

Dinner:

Lean meat, fish or fowl—1 medium serving (¼ pound raw); Potato, or bread—1 medium, or 2 slices; Vegetables (raw or cooked) except corn, beans, peas — 1 generous serving (1 cup); Butter, mayonnaise, or oil—2 pats, or 4 teaspoons; Fruit—1 serving.

One serving fruit: 2 oranges or 1 cup juice, 1 large grapefruit, or 1 cup juice, 1 small cantaloupe, 2 cups fresh berries, 1 slice watermelon (2 inches), 7 apricots, 1 large peach, 1 slice canned (sweetened) pineapple, 1 cup pineapple juice, 6 plums, 1 apple, 1 medium bunch grapes (⅓ pound), 6 nectarines, 1 pear, 30 cherries, 4 figs, 1 small persimmon, 1 banana, 5 prunes, or ½ cup stewed dried fruit (cooked without cugar).

Instead of one serving fruit, ½ cup of jello, custard or junket may be used occasionally.

Instead of 1 medium potato, the following may be used: 1 cup green peas, 2 medium ears fresh corn or ¾ cup canned corn, or ¾ cup cooked beans, rice noodles or macaroni.

May take: Clear broth, plain tea or coffee with any meal. Saccharin (¼ grain) may be used for sweetening, if desired.

Avoid: Sweets, such as sweetened canned fruit, honey, sugar, and desserts.

Eat all listed for breakfast, lunch and dinner, but only in the amounts prescribed.

IV. Diet: 2550 Calories

Carbohydrate 295 Gm.; Protein 95 Gm.; Fat 110 Gm.

Breakfast:

Fruit — 1 serving; Cereal — 2 tablespoons, or fruit — 1 extra serving; Milk—1 standard measuring cup (or ½ cup canned milk); Bread—2 slices; Butter—2 pats; Egg —1.

Lunch:

Choice of:

1. Meat or cheese or egg—1 slice, or 1; Vegetables (except potatoes, corn, peas, beans) — 1 cup; Rice or noodles—¾ cup; Bread—2 slices; Butter—2 pats, or oil or mayonnaise—¾ cup.
2. Macaroni and cheese or similar creamed dish; or canned beans, lima beans, peas or corn—¾ cup; Vegetables (except as noted above)—1 cup; Bread—2 slices; Butter—2 pats, or oil or mayonnaise—4 teaspoons.
3. Meat or cheese or egg—1 slice, or 1; Vegetables, raw or cooked (except as noted above)—1 cup; Bread—4 slices; Butter—2 pats, or oil or mayonnaise—4 teaspoons; Fruit—1 serving; Milk—1 cup.

Supper:

Lean meat, fish or fowl—1 medium serving (¼ pound raw); Potato—1 medium or bread—2 slices; Vegetables (except as noted above)—1 cup; Butter—1 pat; Salad oil or mayonnaise—1 tablespoon; Milk—1 cup; Fruit—1 small serving or occasionally ice cream pudding or unfrosted cake.

Bedtime nourishment:

Fruit—1 serving.

One serving fruit: 2 oranges, or 1 cup juice, 1 large grapefruit, or 1 cup juice, 1 small cantaloupe, 2 cups fresh berries, 1 slice watermelon (2 inches thick), 7 apricots, 1 large peach, 1 slice canned (sweetened) pineapple, or ½ canned (sweetened) peach or pear, 1 cup pineapple juice, 6 plums, 1 apple, 1 medium bunch grapes (⅓ pound), 6 nectarines, 1 pear, 30 cherries, 1 banana, 5 prunes, or ½ cup cooked (without sugar) dried fruit.

Use as desired: Clear soup, or plain tea or coffee.

Measure all servings: Do not overeat: Avoid concentrated foods such as candy, honey, jam, syrup, and sugar.

Constipation: Clinical and Roentgenologic Evaluation of the Use of Bran

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FOR many years bran has been used as a laxative, apparently with some encouraging results and has become generally accepted as a preventive dietary agent in constipation. The literature, however, bears very little evidence to place this contention on a scientific basis.

In 1940, Fantus, Kopstein and Schmidt (1) made a systematic study of intestinal motility as influenced by bran; in this work bran was administered to normal individuals and the intestinal motility was determined by roentgenograms. Two distinct observations were made by Fantus and his co-workers; first,

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The Roentgenologic work represented in this writing was done by Geza G. Kopstein, M.D.

that bran does not accelerate a twenty-four hour cecal emptying time, but that it does accelerate a forty-eight hour cecal emptying time, and secondly, that the total emptying time of the gastro-intestinal tract is influenced only in the normal individuals who had a forty-eight hour or longer cecal emptying time.

The present study is designed to establish the facts about the influence of bran on intestinal evacuation in individuals who are constipated. We selected, therefore, over a considerable period of time, a large number of patients with known delayed bowel function and studied the cases clinically and roentgenologically. In the choice of cases for study we were particularly interested in selecting patients who would demonstrate etiologic factors commonly recognized to produce constipation.

The following types were included in this presentation:

1. Habit (irregularities) ..... 54 patients
2. Diet (indiscretion) ..... 35 "
3. Spastic (constipation) ..... 6 "
4. Atonic (constipation) ..... 14 "
5. Mechanical (causes) ..... 26 "

METHOD OF STUDY

Throughout this procedure the patients were not permitted any oral medication or enemas. Each individual was observed at regular intervals before and after routine procedure in our clinic.

At the onset a complete gastro-intestinal study was made roentgenologically by administering 60 to 70 grams of barium sulfate as a water suspension; after complete emptying of the initial barium meal, 30 grams of bran was given to the patient daily for one week, then a gastro-intestinal study made roentgenologically as a second series. While the X-ray studies were made the daily administration of bran was continued. Then the bran was discontinued for one week and the roentgenological study repeated for the third time. In our discussion of the three series of roentgenologic study we refer to cecal emptying time and total emptying time as to results obtained "before," "during," and "after" administration of bran.

RESULTS

A. Clinical:

In this group we studied a total of 135 patients, fifty-three males and eighty-two females. These were classified into Group I, comprising 53 male patients and Group II of 82 female patients.

For purposes of discussion we subdivided each of the above groups into class A, to indicate which patients were clinically improved, class B to show which remained unchanged and class C to indicate which patients became worse after bran intake.

In the following table we tabulate the clinical results obtained in each of the groups described:

TABLE I

Clinical observations made on 135 patients

Groups	No. of Patients Observed	Sex	Clinical Progress by Classes No. of Patients in Each		
			A	B	C
I	53	Male	43	8	2
II	82	Female	64	18	0
Total	135		107	26	2

The results of clinical observations recorded in Table I are subjective findings given to us by the patient. The patients were instructed to record progress made as to daily bowel evacuations before, during and after bran intake and we were obliged to accept their records as authentic. In order therefore to be in a position to evaluate the accuracy of such findings these patients were studied by roentgenograms before, during and after intake of bran so that a correlation was possible.

B. Roentgenologic:

In recording the findings of roentgenologic studies it is essential to consider the total emptying time and the cecal emptying time of the gastro-intestinal tract.

According to Kopstein (2) a seventy-two hour emptying time of the cecum is considered as delayed motility and a ninety-six hour total emptying time is accepted as a delay in the gastro-intestinal tract.

The results recorded in the Table II show the number of patients studied by roentgenograms which demonstrates delayed cecal and total emptying time while on bran.

TABLE II

Roentgenologic observations made on 135 patients

Group	No. of Patients Observed	Sex	No. of Patients Showing Delayed Motility	
			Cecal Time	Total Time
I	53	Male	7	27
II	82	Female	9	36
Total	135		16	63

Another item that became of interest is the question of improvement in bowel activity with the aid of bran as compared with bowel activity recorded before bran intake and after bran was discontinued. The following table shows the above comparison in 135 patients studied roentgenologically.

TABLE III

Comparative roentgenologic study of 135 patients

Group	No. of Patients Observed	Sex	No. of Patients with Delayed Cecal Emptying Time			No. of Patients with Delayed Total Emptying Time		
			Before	During	After	Before	During	After
I	53	Male	12	7	10	30	27	32
II	82	Female	19	9	14	60	36	52
Total	135		31	16	24	90	63	84

DISCUSSION

It is essential to point out that the patients were studied subjectively and that the clinical findings were further verified by roentgenologic observation. Our problem in general was to determine the effect of the administration of bran orally on bowel activity.

In Table I it is evident that of 135 patients studied 107 were recorded as having improved clinically, 26 remained unchanged in bowel activity and 2 were worse.

In Table II it shows that of the 135 patients studied roentgenologically 16 showed delayed cecal emptying time whereas 63 patients only demonstrated delayed total emptying time of the gastro-intestinal tract.

Another interesting study was to determine the number of patients that were classified as having delayed bowel activity roentgenologically before intake of bran and after bran was discontinued by comparison to the number registered as of delayed activity while on bran. Of the 135 patients studied 31 demonstrated delayed cecal emptying time before bran, 16 showed delayed motility while on bran while 24 demonstrated delayed motility after bran was discontinued. This illustrates the fact that of 31 patients with delayed cecal emptying time, 15 were improved as substantiated roentgenologically while on bran. Again, 90 patients demonstrated as showing delayed total emptying time before bran intake, 63 patients were recorded with delayed motility while on bran; this means that 27 patients were improved as demonstrated roentgenologically in total emptying time of the gastro-intestinal tract. Therefore, of the 107 patients that were reported as improved clinically we may record 42 patients in whom improvement in emptying time could be verified roentgenologically.

CONCLUSIONS

1. Of the 135 patients studied, 107 were improved clinically, 26 remained unchanged and 2 became worse.
2. Of 135 patients studied roentgenologically 31 demonstrated delayed cecal emptying time before bran, 16 showed delayed motility while on bran, showing that 15 were improved while on bran. Of 90 patients showing delayed total emptying time before bran, 63 were recorded with delayed motility while on bran, showing that 27 were improved.
3. Bran administered orally aids bowel activity.

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Fluorescein—An Aid in Gastroscopy

By

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INTRODUCTION

FLUORESCEIN is a dye which has been used for decades to outline corneal ulcers. A drop applied topically to the surface of the eyeball seems to be adsorbed to the ulcerated area and becomes visible by the greenish fluorescent sheen localized to the area of the ulcer.

An application of this principle should be possible with erosions or ulcerations on skin and mucous membrane surfaces.

In the surgical wards at the Coney Island Hospital we used the dye externally where there was a denuded area. For example, a patient had an amputation of the thigh with a resultant granulating wound. Fluorescein was dropped on the wound. At first the entire area of skin, granulation tissue and epithelialized surface were stained an orange color. The room was darkened and the stained area observed through the gastroscope as though it were viewing a similar wound in the stomach. After a few minutes the stain was concentrated in a small irregular area giving a green fluoroescent sheen. The surgeon remarked that the ulcer was actually smaller than it appeared to the naked eye without the fluorescein.

I shall now make reference to the use of fluorescein in peripheral vascular disease. This work has been elaborated by Kurt Lange, at the New York Medical College. He has proved the low toxicity of the drug in humans even when he used it in large doses such as 15 cc. of 5% fluorescein (C. F. Kirk) intravenously. He has noted no reaction in 500 clinical cases. He states that fluorescein is rapidly excreted in the urine and it is no longer visible in the plasma after five hours have elapsed. In our work topically in the stomach, we have used 10 cc. of only 1% fluorescein, which should certainly be non-toxic.

GASTROSCOPIC APPLICATION

Reviewing the background of the drug as outlined above, we felt that it might be useful in outlining ulcers of the gastric mucosa, which might otherwise be overlooked or be indefinite by gastroscopic examination.

TECHNIQUE

The Schindler procedure was unaltered except that 10 cc. of the fluorescein was permitted to enter the stomach through the Ewald tube after the gastric contents had been drained. The gastroscope was then inserted and the stomach inspected in the usual manner.

The following cases are representative of twenty-two cases in which this method was used.

CASE REPORTS

Case 1. R. M., Age 56, complained of epigastric pain for four months coming on 1-2 hours after eating. X-ray series demonstrated a gastric ulcer on the lesser curvature pars media. Gastroscopy was performed using 10 cc. of