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has been shown to relieve

MIGRAINE ATTACKS



'Gynergen', the only product of the tartrate of the specific ergot alkaloid 'Ergotamine' in pure and stable form, is used extensively to prevent and control uterine hemorrhage.

Recent papers by Lennox (*N. E. Med. J.*, May 17, 1934), Brock, O'Sullivan and Young (*Am. J. Med. Sc.*, Aug., 1934) and Logan and Allen (*Proc. Staff Meetings Mayo Clinic*, Sept. 26, 1934) have definitely shown 'GYNERGEN' to be a most effective means of relieving certain cases of migraine headache.

Supplied in ampules, tablets and liquid.

Clinical Literature Available on Request

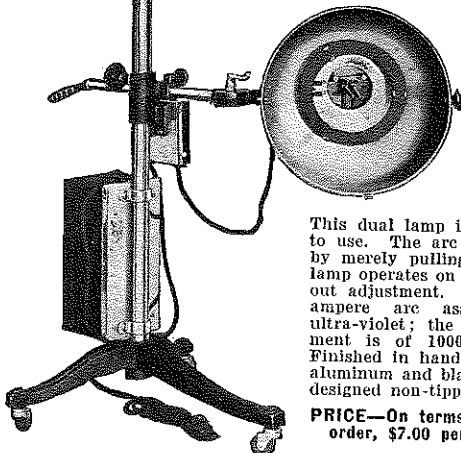
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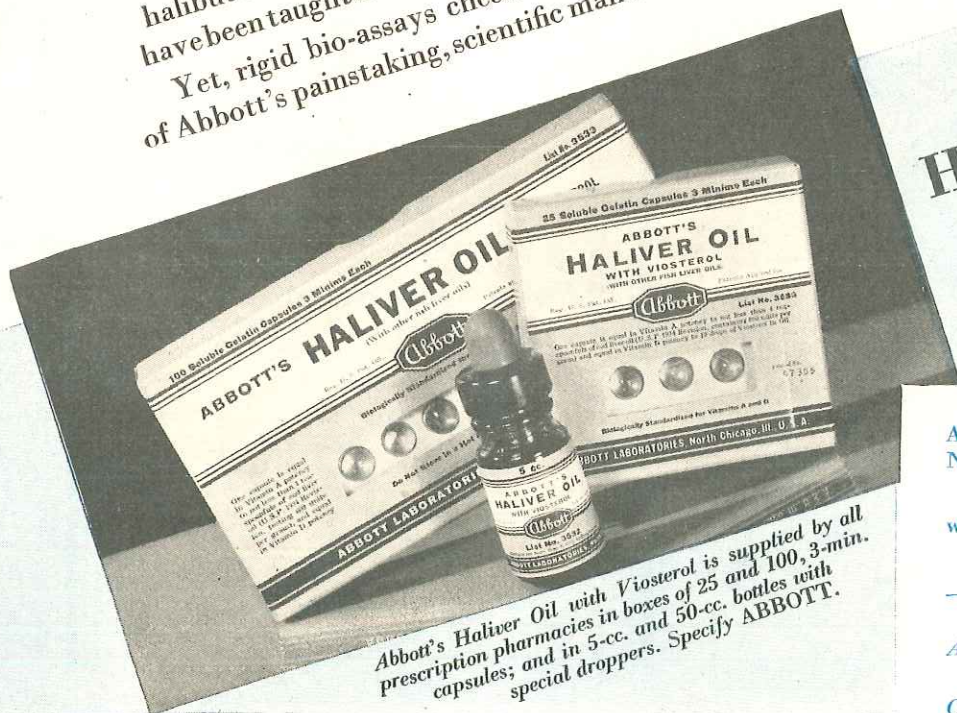
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Mead's Viosterol in Halibut Liver Oil is a rich source of vitamins A and D. It prevents and cures rickets and is valuable in the treatment of various forms of tetany and osteomalacia. It is the important factor in adjusting most forms of disturbed calcium and phosphorus metabolism, also preventing vitamin A deficiencies. Each gram supplies not less than 10,000 vitamin D units and 50,000 vitamin A units (Note: Potencies are stated in terms of new U. S. P. units, 1934, Rev.). Biologically assayed. Supplied in 5 and 50 cc. bottles. Patients appreciate the economy of the large size.



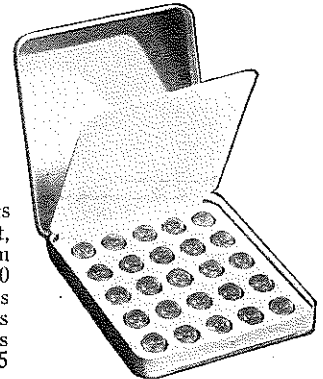
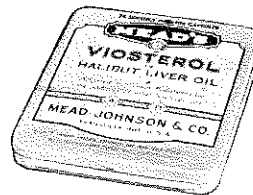
Mead's Viosterol in Halibut Liver Oil is marketed with a special dropper-and-stopper which has the following practical advantages: (a) metal liner to prevent contact of oil with rubber bulb of dropper; (b) no cork or rubber seal; (c) less chance of contamination; (d) greater economy—less waste of oil.

Packed in brown bottles and light-proof cartons to preserve vitamin potency.

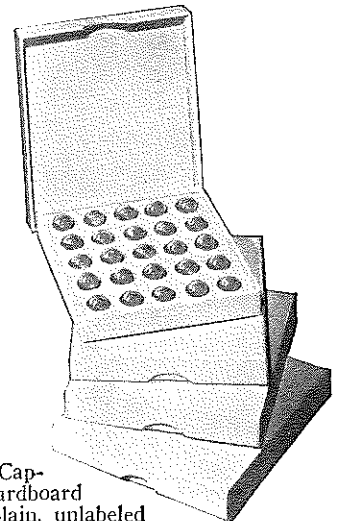
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Concentrated, Lilly*

They offer the convenience of infrequent intramuscular injection.

Make possible close supervision of individual patient.

Usual dose—3 cc.—represents material derived from 100 Gm. of liver; it produces a hematopoietic effect comparable to that resulting from the ingestion of 1,400 to 2,100 Gm. of fresh liver.

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Only stabilized halibut liver oil goes into these Squibb capsules!

WHEN you use halibut liver oil, either the capsules for older children and adults, or the liquid for babies, it is important to remember that the Squibb oil is *stabilized*.

There are certain definite reasons why a stabilized oil is desirable. With refined halibut liver oil, there is a tendency for Vitamin A to deteriorate upon exposure to air.

With the object of preserving every bit of the values that Vitamin A may have for patients, Squibb *stabilizes** the oil.

By this method, Squibb is able to ensure a high Vitamin A and D content. Each capsule of Squibb Stabilized Halibut Liver Oil with Viosterol contains not less than 8500 U.S.P. X (1934 Rev.) units of Vitamin A and 1700 U.S.P. X (1934 Rev.) units of sunshine Vitamin D.

Patients will find no difficulty taking these small gelatin capsules. They offer such a con-

venient and pleasant way of obtaining an extra supply of Vitamins A and D through the winter.

Capsules of Squibb Stabilized Halibut Liver Oil can also be obtained plain for patients who need Vitamin A primarily, and only moderate amounts of Vitamin D.

Squibb Stabilized Halibut Liver Oil for babies in drop dosage . . . For babies, many physicians are specifying Squibb Stabilized Halibut Liver Oil with Viosterol. No product now generally available exceeds its Vitamin A and D content. And the Squibb stabilization process helps to keep the oil palatable and free from odor. Remember this when you use halibut liver oil for babies, and always recommend Squibb *stabilized* products, either plain or with Viosterol.

* The Squibb process of stabilization involves use of an antioxidant (hydroquinone) 0.03%. U. S. Patent 1,745,604.

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Proper dietary control and Insulin dosage can bring about a wonderful improvement in the economic status of many diabetic patients.

Increased muscular strength . . . lessened danger from diabetic coma . . . increased resistance to infections . . . reduced surgical risk . . . all these benefits and others follow the proper use of Insulin.

Insulin-Mulford is a solution of the active anti-diabetic hormone derived from selected pancreas. It is highly purified and is notably free from reaction-producing proteins.

Insulin-Mulford is carefully standardized by biological assay methods to insure uniformity in dosage. Every lot of Insulin-Mulford is warranted to conform to standards established and maintained by the Insulin Committee of the University of Toronto.

Insulin-Mulford is supplied in non-soluble glass containers: 5 cc.—10-, 20- and 40-unit strengths per cc.; 10 cc.—10-, 20-, 40- and 80-unit strengths per cc.

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It is in the therapy of rickets that the outstanding value of Viosterol has been demonstrated. Because it is highly potent, it acts rapidly. Time is a vital factor in rickets, if the child is to be saved from deformities which may otherwise be carried throughout life.

The clinical background of results with Viosterol continue to make it the product of choice with many physicians. It is as effective in the severe malacia type of rickets as it is in milder cases.

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For routine treatment or prophylaxis, Squibb Viosterol in Oil may well be the product of choice. Meticulous care is given to its preparation. The irradiation of the purified ergosterol, the selection and purification of the vehicle, the care taken to

prevent deterioration (the oil is charged with carbon dioxide) are factors which give assurance to the physician that Squibb Viosterol in Oil will give his patients maximum value! Remember when prescribing Viosterol to *specify* "Squibb."

SQUIBB COD LIVER OIL *with* VIOSTEROL

Squibb Cod Liver Oil with Viosterol is not only exceedingly rich in Vitamin D, containing 400 units U.S.P. X (1934 Rev.) per gram, but its high Vitamin A potency, 2100 units U.S.P. X (1934

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of neurosyphilis Tryparsamide Merck acts almost, if not entirely, as a specific drug. Clinical improvement is usually very prompt and serological cure usually occurs within the first year.

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Each 3-minim capsule supplies not less than 5,500 U.S.P.
Vitamin A units and 570 Steenbock Vitamin D units.

WHEN recommending Mead's Capsules, the physician is now assured of the same high grade product which is marketed by Mead in liquid form, and he also knows that Mead's Capsules are not advertised to the public.

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*"The fish's name is
HALIBUT" —
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The scope of the work of the sanatorium is limited to the diagnosis and the treatment of nervous and mental disorders, alcoholic and drug habituation. Every helpful facility is provided for these purposes, and the institution

affords an ideal place for rest and up-building under medical supervision. Four physicians reside at the sanatorium and devote their entire attention to the patients.

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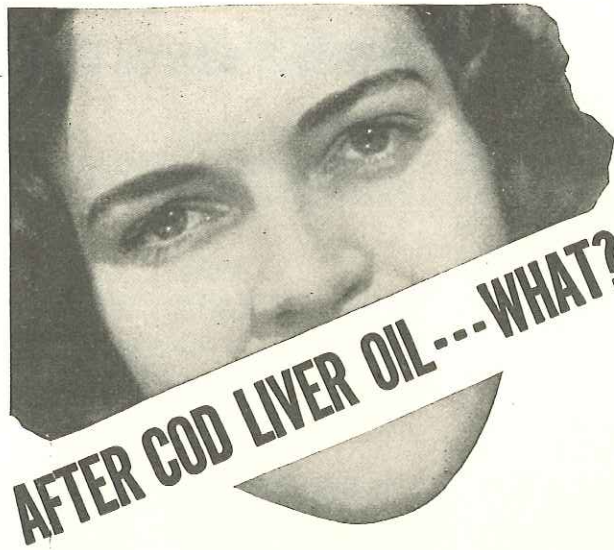
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"A study was undertaken to observe the effects of vitamin-D on tooth decay in 162 children living in institutions in and around Toronto. The children, ranging in age from 2 to 17 years, were under observation for a period of one year. They all received an excellent diet, containing large amounts of calcium and phosphorus—probably a better diet than that received by the average child. In addition, the children lived under healthful conditions, getting lots of sleep, fresh air and outdoor exercise. . . .

"The results show that the group receiving vitamin-D developed an average of only 0.69 new cavities per child during the year, while in the group on the same diet, without the additional vitamin-D, 1.54 new cavities per child developed. From the results it is evident that the addition of vitamin-D to the diet cut tooth decay in half."—Conclusions from new research on dental caries, Department of Paediatrics, University of Toronto. Dr. C. H. M. Williams, Dr. P. G. Anderson, Dr. C. Summerfeldt, Dr. H. Halderson and Dr. R. G. Agnew.

For further information address Dr. J. G. Coffin, Technical Director, GENERAL BAKING COMPANY, Dept. M-1, 420 Lexington Avenue, New York City.

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Relative Values of Carbohydrates

continued down from 1911
1923

"We also know that decomposed food and foods rich in sugar (particularly cane and milk sugars) are instrumental in bringing about a toxic state."
" . . . I have used with good success, skimmed milk (boiled 10 minutes) together with butter-milk, or bacillus bulgaricus in the culture or tablet form, gradually replacing the skimmed milk with whole milk, and slowly adding some form of malt sugar, such as Dextrin-maltose, up to 5%. In some cases where the child had, previously to the acute attack, been poorly nourished, and where subsequently there had developed a state of intestinal decomposition, I have used albumin milk with Dextrin-maltose beginning with a 2% solution and increasing gradually to a 5 or even a 7% solution."—E. W. May: *Treatment of alimentary intoxication and report of cases, J. Michigan St. M. S., 22:14-16, Jan., 1923.*

1923

"Milk-sugar, which has been so extensively used in the past, should never be used where there is any digestive disturbance. It is not as easily digested as either cane-sugar (granulated sugar) or dextrin-maltose. The latter is the best of all

sugars to use, especially if there is any tendency to looseness of the bowels."—A. Brown: *The Normal Child; Its Care and Feeding, F. D. Goodchild Company, Toronto, 1923, p. 120.*

1923

"In two or three days, when the condition has improved as evidenced by fewer bowel movements and a difference in their character, sugar in the form of dextrin-maltose is gradually added."
—C. M. Pounders: *The diarrheal diseases of infants and children, J. Oklahoma St. M. A. 16:245-249, August, 1923.*

1923

"If colic is due to lactose indigestion, Dextrin-Maltose should be added to the formula, as it does not ferment so easily as sugar, and is more readily assimilated."—R. C. Ferguson: *A few suggestions in difficult feeding cases, Texas St. J. M., 19:242-245, August, 1923.*

1923

"With the protein milk feeding in a couple of days the stools become putty like and constipated. When this occurs we can gradually add dextrin-maltose to the diet, finally working the baby back to a milk diet."—F. B. Morgan: *Underfeeding and fat indigestion in infants, Iowa Homeopathic J., 18:75-87, August, 1923.*

1923

"When the baby becomes abnormal, when it has a digestive disturbance and especially one of a fermentative nature, one's attitude toward the various sugars is materially changed. It seems well established that in these conditions milk-sugar, and also cane sugar, are less well tolerated than are the dextrin-maltose preparations. . . . Because these carbohydrates are better tolerated in all cases with a tendency to diarrhea of fermentative origin, and can be given sooner and in larger amounts during convalescence without danger of a return of the diarrhea, they have almost completely replaced the other sugars in the treatment of these conditions, and are always used in the special preparations such as Eiwiss milch that were devised to meet this indication. A further advantage in the use of dextrin-maltose prepa-

arations lies in the fact that, it is commonly of benefit to use two or more carbohydrates in an infant's food for reasons that will be considered later. When we add dextrin-maltose to a food we have three carbohydrates represented, milk-sugar, dextrin and maltose, that have a different chemical and bacteriological behavior in the intestine and have different rates of absorbability."
"Milk-sugar is changed into dextrose and galac-

tose; cane sugar into dextrose and levulose; while maltose is split up into two molecules of dextrose. Dextrins are first converted into maltose and then into dextrose. The starches are first changed into dextrins and then into maltose and finally into dextrose. The disaccharides and the polysaccharides, like starch, are not absorbed as such while all the monosaccharides are. They seem, however, to differ in the readiness with which they are absorbed and utilized in the body and also differ in their fermentability in the intestinal tract. Dextrose is the least easily fermented and the most readily absorbed of the monosaccharides. It is moreover the normal constant sugar of the blood and can, therefore, be utilized at once without first being stored as glycogen in the liver. The levulose and galactose, which form half of the intestinal end products of cane sugar and milk-sugar respectively, are said to be more readily fermented and less readily absorbed, and must first be changed into glycogen and later into dex-

triose before they can be utilized in the body. This would seem to offer an explanation for the clinical experience that dextrin-maltose preparations are more acceptable to atrophic, or marantic babies, to weak babies with digestive disturbances, and to all cases in which there is a tendency to fermentation. Maltose for chemical and commercial

reasons has not been available for infant feeding and is never used alone. It is always combined with dextrins which represent an intermediate stage in the conversion of starch into maltose. In fermentative disorders this is of considerable advantage, as we know clinically, probably because the simultaneous and more gradual conversion of dextrin into maltose, and maltose into dextrose, leaves less of the dextrose at any one time to undergo fermentation. It may also be of value for osmotic reasons. This probably offers a further explanation why starch is so often added with advantage instead of more sugar, because the digestion of starch requires a still further step, the conversion into dextrins."

"In terms of the kitchen one can begin with two to four level teaspoonfuls and gradually increase the amount up to six or eight, or ten level teaspoonfuls in the total mixture. The dextrin-maltose preparations can commonly be used in much larger amounts, up to three or four table-spoonfuls."—I. A. Abt: *Pediatrics, W. B. Saunders Co., Phila., 1923, Vol. 2, pp. 644-646, 690.*

1923

"Carbohydrates were added gradually. Dextrin-maltose is apparently the best of the sugars."—A. Brown and G. Boyd: *Acute intestinal intoxication in infants, Canad. Med. A. J. 13:800-803, Nov., 1923.*

1924

" . . . the ferment maltase which converts maltose into a monosaccharide evidently occurs in other parts of the body as well as the intestines because when it is injected subcutaneously it can not be recovered in the urine. This partly accounted for the fact that the power of assimilation of the body for maltose is twice that of the other two, as Czerny and Keller found. For this reason the possibility of over stepping the infants' tolerance for sugar is fifty per cent less when this sugar is used. In being more rapidly inverted and absorbed it is less liable to cause fermentation. Clinically these observations have been borne out and the consensus of opinion favors maltose as the sugar of choice. Czerny, Keller, Finkelstein, Langstein, and Meyer used it in a preparation consisting of about equal parts of dextrin and maltose with some sodium chloride."—*Artificial feeding of infants, International Med. Digest, 6:661-667, July, 1924.*

1924

"In a communication published in 1918, the author reported striking results in eleven out of twelve cases. The initial mixture in most instances consisted of 270 c.c. skimmed milk, 360 c.c. water, 60 g. farina and 30 g. dextrin-maltose boiled an hour or longer in a double boiler until sufficiently

thick to adhere to an inverted spoon. . . . In 1921 his series of cases so treated had reached twenty-eight, with a mortality of 3.5 per cent."—L. W. Sauer: *Hypertrophic pyloric stenosis, Arch. Pediat., 41:145-170, March, 1924.*

1924

In dyspepsia, "The carbohydrate must not be allowed to exceed 3 per cent. Dextrin-maltose is the most suitable sugar."

In the treatment of decomposition (atrophy, malnutrition, marasmus), " . . . when there has been obvious improvement, dextrin-maltose is gradually increased from 3 to 5 per cent."—B. Myers: *The nutritional disturbances of infancy, Brit. M. J., 1:1079-1083, June 21, 1924.*

1924

"The most desirable sugar is dextrin-maltose, because of all the sugars maltose is least apt to ferment."—A. I. Blau: *The use of protein milk in pediatrics, Med. J. & Rec., 119:359, April 2, 1924.*

1924

"Maltose is absorbed in larger proportion than other sugars, breaks up into two molecules of dextrose, and often quickly gives a striking gain in weight."—F. M. Fry: *Fixed principles in the feeding of infants, Canad. M. A. J., 14:503-505, June, 1924.*

1924

"The treatment of artificially fed children in the first of these groups consists in putting them on a low fat dietary, and giving them carbohydrate in the form of one of the less fermentable sugars—c. g., dextrin-maltose."—L. G. Parsons: *Wasting disorders of early infancy, Lancet, 1:687-694, April 5, 1924.*

1924

In acute dyspepsia, "Some carbohydrate is essential to promote water-retention in the tissues and prevent loss of weight, but only such carbohydrates should be selected as will produce the least intestinal fermentation, such as dextrin-maltose, which may be administered at first in small quantities, increasing the amount every second day."

Concerning the treatment of diarrhea, "If the weight remains stationary, it is an indication that loss of substance is occurring through the stools, mostly in the form of alkaline salts. To equalize this loss of substance, the diet must be increased, but in such a way as to avoid causing fermentation. This may be done by adding dextrin-maltose and preparations of protein to the food, increasing the calories until the infant is taking 160 calories per kilo. of body weight."—H. L. Ratnoff: *Nutritional disturbances, Arch. Pediat., 41:771-784, Nov., 1924.*

1925

"According to Finkelstein, infants will tolerate a much higher mixture of maltose and dextrin than either lactose or cane sugar."

"Milk sugar causes abnormal acid fermentation. This results in symptoms of intestinal irritation due to destruction of epithelium which interferes with the proper emulsification of fats; therefore, the presence of fats acts as an additional irritant and provokes loose bowels."

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