

Pharmacy
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BIBLIOGRAPHY

of

THYROIDEUM and THYROXINUM

UNITED STATES PHARMACOPOEIA

(O - XI) (1820 - 1930)

NATIONAL FORMULARY

(I - VI) (1888 - 1935)

by

Paul James Weigel

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1938

U. S. P. VIII.

p. 223

Glandulae Thyroideae Siccæ
Desiccated Thyroid Glands

Data on Thyroideum

1900

Glandulae Thyroideae Siccae.

Desiccated Thyroid Glands.

Sheep (*Ovis aries*, Linné)

A yellowish, amorphous powder.

Chemical

Average Dose -- .025 Gm. = 250 milligrams (4 grains)

The thyroid glands of the sheep (*Ovis aries* Linne), freed from fat and cleaned, dried, and powdered.

A yellowish, amorphous powder, having a slight, peculiar odor, and containing the active ingredient of the thyroid tissue; partially soluble in water.

One part of Desiccated Thyroid Glands represents approximately 5 parts of the fresh gland.

Upon incineration it should not yield more than 6 percent of ash.

If 1 Gm. of Desiccated Thyroid Glands be mixed with an equal weight of pure sodium hydroxide and carefully fused in a silver dish, and oxidized by adding potassium nitrate while fusing, until a white mass remains, and if the fused mass be dissolved in a small quantity of water, the solution treated with 2 Gm. of sodium nitrite, acidified with concentrated nitric acid, and then shaken with 5 Cc. of chloroform, a decided pink to violet coloration should be imparted to the latter (presence of iodine compounds). A cold extract of Desiccated Thyroid Glands treated with 2 Gm. of sodium nitrite and acidified with strong nitric should not give the iodine test on shaking with chloroform

Average Dose -- 0.250 Gm. = 250 milligrams (4 grains).

U. S. P. IX

p. 443

Thyroideum Siccum

Dried Thyroids

Thyroid. Sicc. -- Glandulae Thyroideae Siccæ. U.S.P.VIII

Desiccated Thyroid Glands.

Data on Thyroideum

1910

Thyroideum Siccum

Glandulae Thyroideae Siccae U. S. P. VIII

Dried Thyroids

Desiccated Thyroid Glands.

A yellowish, amorphous powder.

Chemical

Average dose: -- Metric, 0.1 Gm.

Apothecary $1\frac{1}{2}$ Gr.

The thyroid glands of animals which are used for food by man, freed from connective tissue and fat, dried and powdered, and containing not less than 0.17 per cent. nor more than 0.23 per cent. of iodine (I = 126.92) in thyroid combination. One part of Dried Thyroids corresponds to approximately 5 parts of the fresh glands.

A yellowish, amorphous powder, having a slight characteristic odor.

Dried Thyroids must be free from iodine in inorganic or any other form of combination than that peculiar to the thyroid.

Dried Thyroids contain not more than 6 per cent. of moisture and the yield of ash does not exceed 5 per cent.

Assay -- Mix 1 Gm. of Dried Thyroids in a nickel crucible of about 125 mils. capacity, with 15 Gm. of a mixture composed of 138 parts by weight of anhydrous potassium carbonate, 106 parts of anhydrous sodium carbonate, and 75 parts of potassium nitrate. Spread an additional 5 Gm. of this fusion mixture evenly over the surface. Heat the crucible over a free Bunsen flame until no further carbonization is observed, cool it and dissolve the residue in about 150 mils. of distilled water, warming to hasten solution. Transfer

this solution to an Erlenmeyer flask of about 500 mils capacity and add approximately 50 mils, or its equivalent, of a fresh solution of chlorinated soda (containing 2.4 per cent. of chlorine by weight). Now treat the mixture with enough phosphoric acid, diluted with an equal volume of distilled water, to produce an appreciable yellow tint of free chlorine, then add 10 mils more of the phosphoric acid diluted with an equal volume of distilled water, and boil the contents of the flask for one-half hour until the volume has been reduced to about 150 mils. Cool the liquid, add 10 mils of an aqueous solution of potassium iodides (1 in 100) and titrate the liberated iodine with freshly prepared two-hundredth-normal sodium thio-sulphate V.S., starch T. S. being used as indicator just before the end of the reaction. It shows not less than 0.17 per cent. nor more than 0.23 per cent. of I.

Each mil of two-hundredth-normal sodium thio-sulphate V. S. used corresponds to 0.01058 milligrammes of I. derived from the Thyroid Glands used. Each gramme of Dried Thyroids corresponds to not less than 16.07 mils nor more than 21.74 mils of two-hundredth-normal sodium thiosulphate V. S.

Average dose -- Metric, 0.1 Gm.

Apothecary, $1\frac{1}{2}$ grain

U. S. P. X.

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Thyroideum

Thyroid

Thyroid -- Thyroideum Siccum U. S. P. IX.

Data on Thyroideum

1920

Thyroideum

Thyroid

Thyroid.

Thyroideum Siccum U. S. P. LX.

A yellowish, amorphous powder

Chemical

Thyroxinum

Average Dose: -- Metric 0.06 Gm.

Apothecary 1 Gr.

Thyroid is the cleaned, dried, and powdered thyroid gland, previously deprived of connective tissue and fat. It is obtained from domesticated animals which are used for food by man.

Thyroid contains not less than 0.17 per cent. and not more than 0.23 per cent. of iodine in thyroid combination, and must be free from iodine in inorganic or any other form of combination than that peculiar to the thyroid gland. One part corresponds to approximately 5 parts of the fresh gland.

Description and physical properties -- A yellowish, amorphous powder, having a slight, characteristic odor.

Tests for purity -- Thyroid contains not more than 6 per cent. of moisture. Ash: not more than 5 per cent.

Assay -- Mix 1 Gm. of Thyroid in a nickel crucible of about 125 c.c. capacity, with 15 Gm. of a mixture composed of 138 parts by weight of anhydrous potassium nitrate. Spread an additional 5 Gm. of this fusion mixture evenly over the surface. Heat the crucible over a free Bunsen flame until no further carbonization is observed, cool, and dissolve the

residue in about 150 c.c. of distilled water, warming to hasten solution. Transfer this solution to an Erlenmeyer flask of about 500 c.c. capacity, and add approximately 50 c.c., or its equivalent of a fresh solution of chlorinated soda (containing 2.5 per cent. of chlorine by weight). Treat the mixture with enough phosphoric acid, diluted with an equal volume of distilled water, to produce an appreciably yellow tint of free chlorine, add about 100 c.c. more of phosphoric acid, diluted with an equal volume of distilled water, and boil for one-half hour or until the volume has been reduced to about 150 c.c. Cool the liquid, add 10 c.c. of a freshly prepared aqueous solution of potassium iodide (1 in 100), and titrate the liberated iodine with freshly prepared two-hundredth-normal sodium thiosulphate, starch T. S.

Each c.c. of two-hundredth-normal sodium thiosulphate used corresponds to 0.0001058 Gm. of iodine derived from thyroid glands.

Average dose -- Metric, 0.06 Gm.

Apothecaries, 1 grain.

U. S. P. XI

p. 387

Thyroideum

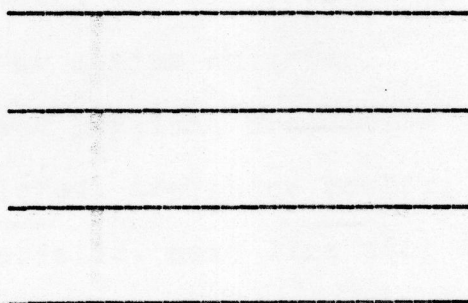
Thyroid

Data on Thyroideum

1930

Thyroideum

Thyroid



A yellowish to buff-colored, amorphous powder, having a slight, characteristic, meat-like odor and a saline taste.

Chemical

Thyroxinum

Average dose -- Metric 0.06 Gm.

Apothecaries 1 Gr.

Thyroid is the cleaned, dried and powdered thyroid gland previously deprived of connective tissue and fat. it is obtained from domesticated animals that are used for food by man.

Thyroid contains not less than 0.17 per cent and not more than 0.23 percent. of iodine in thyroid combination, and must be free from iodine in inorganic or any form of combination other than that peculiar to the thyroid gland. A desiccated thyroid of a higher iodine content may be brought to this standard by a mixture with a desiccated thyroid of a lower iodine content or with lactose or sodium chloride.

Description and physical properties -- A yellowish to buff-colored, amorphous powder, having a slight, characteristic, meat-like odor and a saline taste.

When suitably mounted and examined under the microscopic, Thyroid shows numerous smooth to striated, hyaline fragments of colloid, of angular to irregular shape which are colorless to pale-yellow in water mounts, brown in Mallory's stain and pink in eosin solution, some of these fragments containing granules, minute vacuoles, crystalloid bodies and cells; numerous irregular fragments of follicular epithelium staining brown with Mallory's stain, the individual cells more

or less polygonal to rounded-angular or irregularly cuboidal, often with prominent nuclei staining dark blue, their cytoplasm purplish with Delafield's haematoxylin; slender glistening segments of capillaries of closely undulate outline; numerous slender segments of neuraxons; numerous aggregate of particles of inter-cellular substance and slender, mostly straight, connective tissue fibers staining blue to greenish-blue with a mixture of Mallory's stain and 1 per cent. phosphotungstic acid, the bundles of fibers often appearing reddish in Mallory's stain; few glistening fragments of bold vessels with serrated or crenated ends as viewed in water mounts.

Tests for purity -- Thyroid contains not more than 6 per cent. of moisture as determined by the Moisture method by toluene distillation, page 473.

Assay -- Thoroughly mix 1 Gm. of Thyroid, finely powdered and accurately weighed, with 15 Gm. of an intimate mixture of 138 parts by weight of anhydrous potassium carbonate, 106 parts anhydrous sodium carbonate and 75 parts of powdered potassium nitrate in a nickel crucible of about 125 c.c. capacity, and spread an additional 5 Gm. of this mixture evenly over the surface.

Heat the crucible with the flame of a Bunsen burner at such a rate as to attain a dull-red color in ten minutes, and continue the heating at the same temperature for an additional ten-minute period. At the end of this time the carbonaceous material is completely oxidized and the mixture has just begun to melt around the wall of the crucible. Cool the fusion mixture and place the crucible and contents in a 400 c.c. beaker. Add 150 c.c. of hot distilled water and stir until the contents of the crucible are completely dissolved. Transfer the solution to a 500 c.c. Erlenmeyer flask and rinse the beaker and crucible with four, 10 c.c. portions of hot distilled water, adding the rinsing to the solution in the flask. Cool the solution to 15° C. and add 50 cc. of freshly prepared chlorinated soda T. S. Cautiously add 60 cc. of dilute phosphoric acid (made by mixing equal volumes of phosphoric acid and distilled water), place the flask on a hot plate and boil the solution until a strip of filter paper, moistened with starch-potassium iodide T. S., does not become blue when held in the vapor in the mouth of the flask. The final volume of solution in the flask must be about 175 cc., and

distilled water must be added, if necessary, during the boiling to maintain this volume. Cool the solution to about 25°C. and add 10 cc. of a freshly prepared aqueous solution of potassium iodide (1 in 100). Titrate the liberated iodine with two-hundredth-normal sodium thiosulfate, adding 3 cc. of arrowroot starch T. S. as indicator just before the end of the titration. Conduct a blank test with the same quantities of the same reagents, omitting only the Thyroid, and fusing as directed, and subtract the volume of two-hundredth-normal sodium thiosulfate consumed from that consumed by the Thyroid. Each cc. of the corrected volume of two-hundredth-normal sodium thiosulfate is equivalent to 0.000105 Gm. of I.

Storage -- Preserve Thyroid in an air-tight container, in a cool place.

Average dose -- Metric, 0.06 Gm.

Apothecaries 1 grain

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Thyroxinum

Thyroxin

Thyrox.

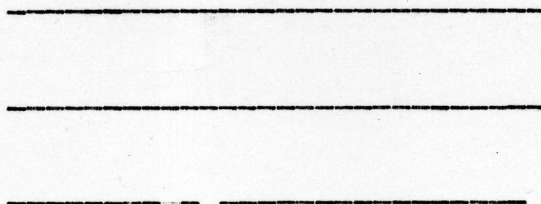
Data on Thyroxinum

1920

Thyroxinum

Thyroxin

Thyrox.



White or slightly yellow, needle-like odorless
crystals or powder

Chemical

Thyroxinum

Average dose -- Metric, 0.0005 Gm.

Apothecaries 1 1/20 Gr.

T Thyroxin $[(C_8H_5ONI_3) \cdot C_2H_4COOH]$ is an active principle obtained from the thyroid gland, and contains not less than 63 per cent. of iodine

Description and physical properties -- White or slightly yellow, needle-like, odorless crystals or powder.

Thyroxin is insoluble in water and practically insoluble in alcohol or other usual organic solvents, but in the presence of mineral acids it dissolves in alcohol. It is soluble in solutions of the alkali hydroxides and when alkaline solutions are saturated with sodium chloride the sodium salt of thyroxin separates.

Tests for identity -- Ignite a few milligrams of Thyroxin with about 0.1 Gm. of sodium carbonate, dissolve the residue in 2 c.c. of distilled water, acidulate with acetic acid, add 1 c.c. of chloroform and a few drops of chlorine T. S. : the chloroform acquires a violet color.

Tests for purity -- The ash from 0.01 Gm. is negligible.

Dry about 0.02 Gm. of Thyroxin over sulphuric acid for twenty-four hours : the loss in weight is negligible (water).

Shake 0.01 Gm. of Thyroxin with 10 c.c. of

distilled water during five minutes, and filter. Acidulate the filtrate with one drop of diluted nitric acid, and add 3 drops of tenth-normal silver nitrate: the turbidity so produced is not greater than that produced in a control test by one drop of fiftieth-normal hydrochloric acid (soluble iodides).

Assay -- Mix about 0.02 Gm. of Thyroxin, previously dried over sulphuric acid for twenty-four hours and accurately weighed with about 0.5 Gm. of anhydrous potassium carbonate in a small platinum crucible. Cover the mixture with an additional 1 Gm. of anhydrous potassium carbonate, and heat gradually until it is completely decomposed. Treat with distilled water and transfer to a 100 c.c. graduated flask. Heat the solution on a water bath and add potassium permanganate solution (1 in 20), drop by drop, until the liquid remains pink. Then add, drop by drop, just enough alcohol to discharge the pink color, cool, and dilute to the mark with recently boiled and cooled distilled water. Mix well and filter through a dry filter into a dry flask, rejecting the first 20 c.c. of the filtrate. To 50 c.c. of the filtrate add about 0.5 Gm. of potassium iodide and 30 c.c. of

diluted sulphuric acid, and titrate the liberated iodine with two-hundredth-normal sodium thiosulphate, using starch T. S. as indicator towards the end. Correct for any iodine liberated in a blank made with the same quantities of distilled water, sulphuric acid, and potassium iodide. Each c.c. of two-hundredth-normal sodium thiosulphate corresponds to 0.0001058 Gm. of iodine

Average dose -- Metric, 0.0005 Gm.

Apothecaries, 1/120 grain

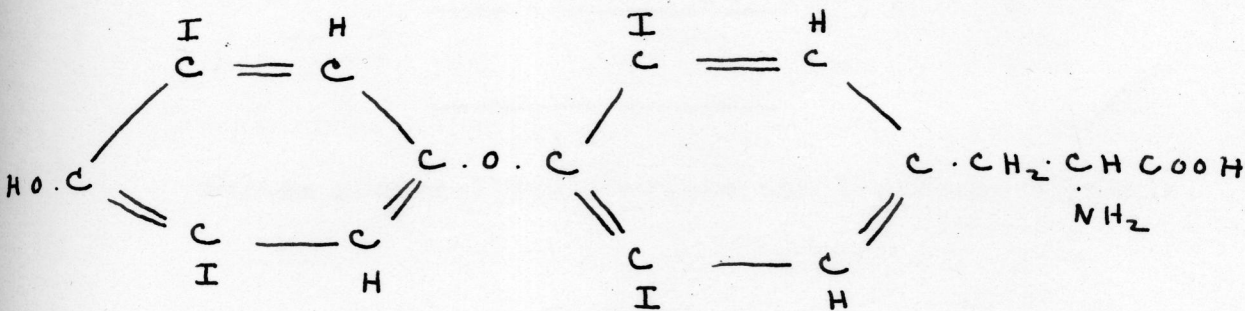
U. S. P. XI.

p. 389.

Thyroxinum

Thyroxin

Thyrox.



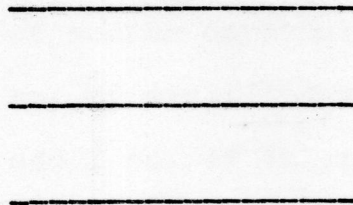
Data on Thyroxinum

1930

Thyroxinum

Thyroxin

Thyrox.



White, needle-like, odorless and tasteless crystals.

Chemical

Thyroxinum

Average dose -- Metric, 0.0005 Gm.

Apothecaries, 1/120 Gr.

Description and physical properties -- White, needle-like, odorless and tasteless crystals.

Thyroxin is insoluble in water, in alcohol, and in the other usual organic solvents, but in the presence of mineral acids or alkalies it dissolves in alcohol. It is soluble in solutions of the alkali hydroxides and in hot solutions of the alkali carbonates. When alkali hydroxide solutions of Thyroxin are saturated with sodium chloride, the sodium salt of Thyroxin separates.

Tests for identity -- Ignite 0.0005 Gm. of Thyroxin with 0.1 Gm. of sodium carbonate, dissolve the residue in 2 cc. of distilled water, acidify with acetic acid, add 1 cc. of chloroform and a few drops of chlorine T. S., and shake the mixture: The chloroform acquires a violet color.

Dissolve 0.0005 Gm. of Thyroxin in 5 cc. of alcohol, containing 4 drops of hydrochloric acid. Add 5 or 6 drops of sodium nitrate solution (1 in 100), when the solution develops a yellow color, that is increased on heating. On cooling the solution and adding stronger ammonia water until

distinctly alkaline, a pink color is produced.

Tests for purity -- The ash from 0.01 Gm. of Thyroxin is negligible.

Dry about 0.02 Gm. of Thyroxin over sulfuric acid for twenty-four hours; the loss in weight is negligible (water).

Shake 0.01 Gm. of Thyroxin with 10 cc. of distilled water during five minutes, and filter. Acidify the filtrate with 1 drop of diluted nitric acid, and add 3 drops of tenth-normal silver nitrate: the turbidity so produced is not greater than that produced in a control test by 1 drop of fiftieth-normal hydrochloric acid (soluble iodide).

Assay -- Mix about 0.02 Gm. of Thyroxin, previously dried over sulfuric acid for twenty-four hours and accurately weighed, with about 0.5 Gm. of anhydrous potassium carbonate in a small nickel crucible. Cover the mixture with an additional 1 Gm. of anhydrous potassium, and heat gradually until it is completely decomposed. Treat with distilled water and transfer to a 100 cc. graduated flask. Heat the solution on a water bath and add an aqueous solution of potassium permanganate (1 in 20), drop by drop, until the liquid remains pink. Then add, drop by drop, just sufficient

alcohol to discharge the pink color, cool, and dilute to 100 cc. with recently boiled and cooled distilled water. Mix well and filter through a filter, which has not been previously moistened, into a dry flask, rejecting the first 20 cc. of the filtrate. To 50 cc. of the subsequent filtrate add about 0.5 Gm. of potassium iodide and 30 cc. of diluted sulfuric acid, and titrate the liberated iodine with two-hundredth-normal sodium thiosulfate, using starch T. S. as the indicator toward the end. Make the necessary corrections for any iodine liberated in a blank test, made with the same quantities of distilled water, sulfuric acid and potassium iodide. Each cc. of two-hundredth-normal sodium thiosulfate is equivalent to 0.0001058 Gm of iodine (I.).

Average dose -- Metric, 0.0005 Gm.

Apothecaries 1/120 Grain.

White,

1892

Thyroid Extract: Its Preparation for the Treatment of Myxoedema.

Pharm. Jour. p. 321 (Prcc. A. Ph. A., 41, p. 420)

"The use, hypodermically, of a glycerine extract of the thyroid gland of the sheep has been advocated as a remedy for myxoedema."

A(rends), G.

1894

Ueber die Behandlung des Myxodems mit Schild drusen-preparaten.

Pharm. Ztg., 39, p. 459 (Jahresber. d. Pharm. 29, p. 566)

Discusses the treatment of Myxodema with various thyroid preparations, both fresh and dry.

Nielssen, L.

1894

Thyreoidinpillen

Pharm. Ztg., 39, p. 238 (Jahresber. d. Pharm. 29, p. 569).

Discusses the treatment of Myxodema with the use of thyroid pills made from the dried, defatted pulverized gland incorporated with simple syrup made into pills.

Sieck, W.

1894

Extractum Glandulae Thyreoideae.

Pharm. Ztg. 39, p. 423 (Jahresber. d. Pharm., 29, p. 569).

Describes a method of preparing thyroid preparations from calves or sheep, first defatting, then removing the connective tissue, and then macerating with glycerin, filtering and drying.

Bauman, E.

1895

Ueber das Thyrojodin

Zkschr. Physiol. Chem., 21 p. 319 (Prcc. A. Ph. A., 44, p. 496).

Obtained from the thyroid gland of the sheep, a product to the amount of 0.2 to 0.5 per cent. which he describes as a brown amorphous powder, readily soluble in alcohol, almost insoluble in water, and containing, when repeatedly purified, not less than 9.3 per cent. of iodine, together with phosphoric acid corresponding to 0.4 or 0.5 per cent. of phosphorous. He calls this remarkable compound "thyro-iodin".

Ewald, C. A.

1895

Ueber einer durch die Schilddrüsenthherapie geheilten Fall von Myxodem nebst Erfahrungen über anderweitige von Thyreoideapraparaten.

Berl. klin. Wochenschr., 32, p. 55 (Jahresber. f. Pharm., 30 p. 476).

Discusses the probability that the activity of the dried thyroid gland would be increased if it was prepared by dialysis, because then the active principle would be only the dialyzed portion and this portion could be used in the treatment of Myxedema.

Frankel, S.

1895

Thyreoantitoxin, der physiologische wirksame Bestandtheil der Thyreoidea.

Aerztl. Centr. Anz. Wien, 7, p. 550 (Wood & Bache, Dispens. U. S. Am., 18 ed. p. 1366)

Thyreoantitoxin contains no iodine and appears not to be active.

Koch, P.

1895

Thyreoidin. sicc.

Pharm. Ztg., p. 209 (Jahresber. f. Pharm., 30, p. 477).

Describes a preparation of the thyroid gland which was prepared in vacuum or by drying at higher temperature, and which had a less disagreeable taste and odor.

Merck, E.

1895

(Preparate aus Thierischen Organen)

(Pharm. Centralhl, 37, p. 134; Prcc. A. Ph. A.,
44, p. 495.)

(Thyreoidinum Depuratum is composed of at least
two bodies, one of which exhibits the character of a
globulin, whilst the other, physiologically, the more
important, an enzyme.)

Notkine, J.

1895

(Ein Eiweisskorper aus der Schilddrüse)

_____, P. _____

Pharm., Zeitschr. f. Russl., 34, p. 357; Jahresber. d.
Pharm. 30, p. 474)

(Discovered a thyroid protein which was named
Thyreoproteid, which when injected into animals is
very poisonous and is very slowly excreted.)

Ntokine, J.

1895

(Sur un albuminoide du corps thyroide.)

Nouv. Rem., 11, p. 422 (Pharm. Journ. 1895, 54,
p. 365; Prcc. A. Ph.A., 44, p. 841)

("Thyroprotein, an albuminoid from the thyroid
body, differing in its properties and composition from
all other albuminoids hitherto described: which he
named Thyroprotein".)

Haaf, _____, & Traczewskie, W _____ 1895
(Thyraden)

Pharm. Centralh., 36, 645 (Proc. of A. Ph.A. 44, 495)

("Thyrodén, an extract from the thyroid gland, introduced by a German firm. Prepared by a method not given, and is said to correspond to twice its weight of the gland, the activity of which it represents. It is odorless and non-poisonous".)

Roos, E. 1895

Ueber die Eimoirkung der Schilddrüse auf den Stoffwechsel nebst Vorversuchen über die Art der wirksamen Substanzen in denselben.

Zeitschr. f. phys. Chem., 22, 19, Jahresber. d. Pharm. 30, p. 474)

Concludes that the active constituent of the thyroid gland is not an enzyme, but a stable constituent.

Schaerges, C. 1895

Die chemischen Bestandtheile der Thyeroidea.

Pharm. Ztg. 40, p. 313 (Jahresber. d. Pharm., 30 p. 475)

Believes that the endocrine secretion of the thyroid gland is the active principle in the living organism, but after the gland is removed from the body this enzyme action is not carried over and consequently is not the therapeutic active constituent.

1896.

Ueber Thyrojodin, Thyreoantitoxin und., loslickes Thyrojodin.

Pharm. Ztg., 41, p. 328 (Jahresber. d. Pharm. 31, p. 546)

The active constituents of the thyroid gland are only found in small amounts in the free state in the gland; the largest amount is in combination with albumin.

1896

Die Konservierung frischer Schilddrüsen.

Pharm. Ztg., 41, p. 46 (Jahresber. d. Pharm., 31, p. 542)

Concludes that if the thyroid glands are cleaned of all blood connective and adipose tissues and then made into a powder and mixed with Boxax powder and charcoal and placed in capsules they will retain their activity as though they were fresh.

Altschul, J.

1896

Thyraden

(Pharm. Centralhalle, 37, p. 174; Prcc. A.Ph.A., 44, p. 478)

Under the above name "an extract of the thyroid gland", is on the market.

Baumann, E. & Goldman, E.

1896

Ist das Jodothyrim (Thyrojodin) der lebenswichtige Bestandtheil der Schilddrüse?

Munch. med. Wochenschr., 63, p. 1153 (Jahresber. d. Pharm., 31, p. 546.)

The original was not available.

Baumann, E.

1896

Jodgehalt der Schilddrüse

Zeitachr. f. physiol. Chemie, 22, p. 1 (Jahresber. d. Pharm., 31, p. 546)

Discusses a method for the preparation of and isolation of the iodine substance of the thyroid gland.

Baumann, E. & Roos, E.

1896

Sur la proportion d'iode contenu dans les glandes thyroïdes de l'homme et des animaux.

Journ. cl. Pharm. et d. Chem., S6, U. 13, p. 117.
(Jahresber. D. Pharm., 31, p. 542)

Showed the relative amount of iodine contained in the fresh and dried thyroid glands of the sheep and humans, by means of the colorimetric method of Ra-bourden.

Baumann, E. & Roos, E.

1896

Thyroidine, sa preparation

(Jour. d. Pharm d. Chem., S. 6, U. 13, p. 114) Jahresber.
d. Pharm., 31, p. 542.

Gives their method of the preparation of thyroidine.

Boyer & Co., F.

1896

Jodothyrim

(Zeitschr. des. oesterr. Apoth. Ber., 34, p. 686; Yrbk.
Br. Pharm. Conf., 34, p. 225.)

(Iodothyrim is the new name adapted by Boyer and
Co. in the place of "Thyroidin" for the active prin-
ciple extracted from the thyroid gland. The object
of this change in name is to avoid confusion with other
preparations bearing names similar to that previously
adapted.)

Benysek, _____

1896

Zur Werthbestimmung von Schilddrüsenpreparaten.

Pharm. Ztg., 41, p. 46.

Discusses an investigation made on thyroid prep-
arations with the procedure used and concluded that
the anti-toxin of Frankel was more potent than the
English preparation tested.

(Editor)

1896

Jodothyrim

Pharm. Centralhl., 37, p. 718 (Jahresber. d. Pharm.,
31, p. 544.)

Jodothyrim is the new word used to designate
Thyrojodin, with this remedy good results should be
obtained in Psoriasis Vulgaris.

-1896

Die Schilddrüsenfrage vor dem XIV. Kongress
für innere Medizin.

Apoth. Ztg., 11, p. 268. (Jahresber. d. Pharm. 31, p. 542.)

Discusses the use of thyroid preparations in the
various clinical entities, quoting the work of various
authors and their findings.

Fraenkel, S.

1896

(Ueber Jodverbindung der Schilddrüse)

Wien. med. Bl. 19, 195 (Munch. med. Wochenschr.,
63, p. 398. Jahresber. d. Pharm., 31, p. 547.)

The original was not available.

Fronkel, S. 1896

Über die Wirksamkeit des Thyreoantitoxin.

Wien. med. Blatter, 19, p. 804; (Journ. Chem. Soc.,
Yrbk. Br. Pharm. Conf., 34, p. 88.)

Gives further particulars regarding the metallic
compounds of thyreoantitoxin.

Goldmann, F. 1896

Ueber Thyrojodin.

Pharm. Zt., 41, p. 90 (Jahresber. d. Pharm., 31, 546.)

Thyrojodin is the pharmaco-dynamic substance of
the thyroid gland and acts quicker and more intensely
than the whole gland.

Gürber, A. 1896

(Ein jodhaltiges Product der menschlichen
Schilddrüse.)

Munch. med. Wochenschr., 63, _____ (Pharm. Ztg., 41,
p. 413; Jahresber. cl. Pharm., 31, p. 547.)

The original was not available.

Hamack, E. 1896

(Ueber jodhaltige Organismen und deren arzneiliche
Arwendung.)

Munch. med. Wochensebr., 63, 196; (Jahresber. d. Pharm.,
31. p. 547.)

The original was not available.

Magnus, A. & Levy W.

1896

Versuche mit Thyreoantitoxin und Thyrojodin.

Deutsh. med. Worbenschr., 22, p. 491 (Jahresber. d. Pharm., 31, page 546.)

Discusses the effects that thyreantitoxin and thyriodine have on individuals. By using a control they demonstrated the variations in pulse pressure, respiration, and temperature curves with the use of thyreoantitoxin and thyriodin.

Schaerges, C. F.

1896

Zur Schilsdrüsenfrage

Pharm. Ztg., 41, p. 158 (Jahresber. d. Pharm., 31, p. 542)

Discusses the various thyroid products, fresh and dry, and the contributions of Baumann and Fronkel in gland therapy.

Tambach, R.

1896

Inosit, ein Bestandtheil der Schilddrüse.

Pharm. Centralhl., 37, p. 167 (Journ. d. Pharm. d. Chem., S. 6, V. 13, p. 119; Jahresber. d. Pharm., 31, p. 542.)

Describes the isolation of Inosite, which was obtained from Thyroid glands and crystallized in both rosettes and needles and ached both physiologically and chemically as Inosite.

Treupel, G.

1896.

Ueber die Wirkung des Thyrojodins

Pharm. Ztg., 41, p. 125.

Discusses the action of thyroiodin in comparison with action of the thyroid gland in Diabetis Mellitus and Cretinism.

Vigier, _____

1896

(Thyroid Capsules)

Journ. de Pharm. d'Anvers., V. 52 (Pharm. Journ.,

56, p. 174; Proc. A. Ph.A., 45, p. 402.)

(The following method for the preparation of thyroid gland capsules is recommended. The gland is carefully dissected out and all fat and membrane removed. The gland substance is then beaten to a pulp and immediately mixed with borax or wood charcoal. The mass so formed is weighed out into 10 centigramme portions, which are enclosed at once in capsules.)

Original not here.

Aufrecht, _____

1897

Beitrag zur Kenntniss der Schilddrüsen-Präparate.

Pharm. Zt., 42, p. 570 (Jahresber. d. Pharm., 32, p. 568)

Discusses the use of various thyroid preparations in Basedow's Disease, Lupus, Syphilis, and Tuberculosis, and especially those made from sheep and calf thyroid glands.

Aufrecht, _____

1897

Verschiedene Schilddrüsenpräparate des Handels.

Pharm. Ztg., 42, p. 603 (Jahresber. d. Pharm., 32, p. 568)

Discusses the variation in chemical and physiological activity of the Thyroidin of the thyroid with regard to the method of its preparation.

Bayer u. Co., F.

1897

Darstellung der wirksamen Substanz der Schilddrüsen.

Pharm. Zt., 42, p. 32 (Jahresber. d. Pharm.)

Discusses the isolation of the active constituent of the thyroid gland, describing the procedure used to get the pure substance.

Cyon, E.

1897

(Die Funktionen der Schilddrüsen)

(Pharm. Zt., 42, p. 772.)

(Discusses the Iodothyrim with regard to its effect on the nerve center which controls the heart beat and blood circulation.)

Hutchinson, R.

1897

On the Activity of the Constituents of the Thyroid.

Brit. Med. Journ. 1897, V.1, p.194 (Jahresber. d. Pharm., 32, p. 568.)

Discusses the activity of the 3 chief constituents of the thyroid gland, the colloid substance, the extract, and the nucleo-albumen.

Notkine, IJ.

1897

Zur Darstellung des Thyreoidins aus der Schilddrüse.
Pharm. Centralhl., 38, p. 381 (Jahresber. d. Pharm., 32, p. 570).

Discusses the isolation of Thyroidin which is free from the poisonous thyreoproteid portion.

Notkine, IJ.

1897

Die Darstellung von Thyreoproteid.

Pharm. Centralhl., 38, p. 201 (Jahresber. d. Pharm., 32, p. 570)

Discusses the isolation of Thyreoproteid portion of the thyroid gland, describing the procedure used.

Schondorff, B.

1897

(Effect of Thyroid Treatment on Metabolism)

Pflug. Archiv., 63, p. 423 chem. Ges., _____ p. _____

(Yrbk. Br. Pharm. Conf., 34, p. 201) (Being bound)

(Thyroid treatment does not cause a waster of proteids until it has effected the removal of superfluous fat.)

Weiss, F.

1897

Ueber der Jodgehalt von Schilddrüsen in Schlesien.)

Munch. Med. Wochschr. 64, p. 6 (Jahresber. d. Pharm., 32, p. 567.)

The original was not available.

Allison, T. M.

1898

Thyroid Extract in Chronic Bright's Disease.

Brit. Med. Journ., 1898, p. 1051. Yrbk. Br. Pharm. Conf., 36, p. 186.

Discusses the effect of thyroid treatment on patient's suffering from chronic Bright's Disease, with the conclusion that it increases the fatty and nitrogeneous metabolism, is diuretic, tends to increase albumin when present, hastens cell life and development, is a general and cardiac depressant.

Bédard, G. & Mabile, G.

1898

Medication Thyroïdienne et Arsenic

(Compt. rend. Soc. de viol., 50, p. 556. Wien Med. Bl., 19, p. 432; Prcc. A. Ph. A., 47, 779. Apoth. Ztg. 13, p. 498.)

Large doses of thyroid have a decidedly untoward effect on the heart's action. Experiments made upon dogs show that this poisonous effect is neutralized completely when arsenic is administered at the same time. They recommend, therefore, the simultaneous administration of Liquor Potassii Arsenitis with thyroids when the latter medicament is indicated.

Blum, F. 1898

(Über den Halogenstoffwechsel und seine Bedeutung für den Organismus.)

Apt. Ztg., V. no. 13, p. 212, v. no. 16, p. 204

(Prcc. A. Ph. A., 45, p. 890.)

(Discusses the significance and transformation of the albumen-iodide in the thyroid gland.)

Blum, F. 1898

Über die Jodsubstanz der Schilddrüse und ihre physiologische Bedeutung.

(Pharm. Ztg., 43, p. 792; Prcc. A. Ph. A., 47, p. 780.)

Showed that the so-called iodothyron is not a substance pre-existent in the thyroid gland but an "indefinite splitting-up product."

Lipinois, E. 1898

Action du formol sur le corps thyroïde; conservation des glandes fraîches.

Bull. Soc. Chim., 20, p. 982 (Pharm. Journ. 58, p. 665;

Prcc. A. Ph. A. 47, p. 778.)

A 1 per cent. solution of formaldehyde exercises a preservative action on thyroid glands, after they have been immersed 2 or 3 days, without apparently modifying the chemical composition of the gland sensibly as regards the iodized albuminoid content.

Notkine, E

1898

Darstellung eines Fermentes (Thyreoidin) aus
der Schilddrüse.

Chem. Ztg., 1898, S. 108 (Jahresber. d. Pharm., 33,
p. 502.)

Discuss the isolation of a ferment from the thy-
roid gland by the use of acid and ether-alcohol solvent.

Posner, _____

1898

(Ueber Organotherapeutische Präparate)

Deutsch. med. Ztg. 65, p. 19 (Jahresber. d. Pharm.,
33, p. 499)

The original was not available.

Roderfeld, Van A.

1898

Thyroidin

(Apoth. Ztg., 13, p. 839; Proc. A. Ph. A., 47, p. 656)

Thyroidin, iodothyrodin, iodoalbumen, (= beta-
eigon), iodosin, iodipin, iodocasein, etc., not
forgetting "iodo-spongin," an iodine compound from
sponge, containing 8.2 per cent. of iodine, are all
compounds containing iodine.

Schaerges, C.

1898

Über Organotherapeutische, insbesondere Schilddrüsen-
präparate.

Schweiz. Wschr. f. Chem. v. Pharm., 36, p. 363, (Ja-
hresber. d. Pharm., 33, p. 499)

Discusses the use of various thyroid preparations
in organ therapy.

Spitzen, W.

1898

Ueber die Bedeutung gewisser Zellkernsubstanzen
(Nucleoproteide) für die oxydative Leistung der Zelle.
Berl. klin Wschr. 35, p. 814 (Jahresber. d. Pharm.,
33, p. 449)

Discusses the isolation of a nucleoprotein which
was oxidized in the body; the nucleoprotein being
found in the extract of fresh glands such as the liver,
kidney, pineal, thymus, thyroid, etc.

Stanford, C. C.

1898

Iodine in Thyroid Gland.

Pharm. Journ., 61, p. 546; Proc. A. Ph.A., 47, p. 778)

The large amount of iodine found in the British
Pharmacopoeia liquor made from some thyroid glands may
be due to glands that are quite abnormal.

Stanford, C. C. 1898

(Thyroglandin)

(Yrbk. Brit. Pharm. Conf., 35, p. 353; Wood and Boche
Dispens. of Us. Am., 18-ed., p. 1366)

Describes the process of preparing thyroglandin
by mixing the iodo-globulin with thyroidin.

Swinton, R. S. 1898

Iodine in Thyroid Glands

Pharm. Journ. , 61, p. 482; Prcc. A.Ph.A., 47, p. 777.

Reports the results of experiments made to determine
the amount of iodine in well-selected thyroid glands
as well as the relative solvent powers of water and of
the mixed solvent official in the British Pharmacopoeia,
1898 for preparing the extract.

Stawell, D. 1898

Thyroid as a Galactagogue

Pharm. Journ., 61, p. 186; Therap. Gazette, 22, p. 49;
Prcc. A. Ph. A. 246, p. 892.

From observation on several cases is inclined to
attribute a marked galactagogue action to thyroid ex-
tract, its action in the cases noted being very marked,
while the milk secreted appears to be perfectly normal
in character. No alterations in the diet or habits of
the patient were made during the treatment.

Tambach, A.

1898

Ist das Jod in den Jodeiwerkskörpern der Schilddrüse in einer oder in verschie-
derer Bindung enthalten?
Pharm. Centralhl., 39, p. 376 (Jahresber. d. Pharm.,
33, p. 500)

Discusses the combination of iodine in the thyroid gland with reference to its solubility in acid, alkali, and alcohol and ether combinations.

Baldi, D.

1899

Brom in der Schilddrüse der Tiere.
Schweiz. Wschr. f. Chem. v. Pharm., 37, p. 285 (Jahresber. d. Pharm., 34, p. 474)

Showed the presence of bromine in chemical union with the iodine in both the fresh and the dry gland by the use of the Baubigny Reaction.

Baldi, M.

1899

(Presence du brome dans les glandes thyroïdes)
Arch. Ital. de. Biol., p. _____ (Pharm. Journ., 62, p. 235; Repertoire(3) 11, p. 308; Prcc. A. Ph. A., 48, p. 857.)

(Demonstrated the presence of bromine in the thyroid gland of sheep.)

Hoffmann, F. -- La Roche & Co.

1899

Darstellung der wirksamen Bestandtheile der
Schilddrüse.

Chem. Ztg., 23, p. 429 (Jobresber. d. Pharm. 34, p. 475)

Discusses the isolation of the active constituent
of the thyroid gland, giving the procedure used.

Lipinois, _____

1899

(Concentration des extraits organiques par le froid)

Rep. de Phar., 11, p. 242 (Pharm. Post. 32, p. 357;

Prcc. A. Ph. A., 48, p. 857.)

(Finds it practicable to prepare animal extracts
by the well-known freezing process suggested by Herrera
many years ago, the advantages being that the products
so obtained possess indefinite stability and are free
from unpleasant odor.)

Mobille, L.

1899

Bons effect de l'arsenic pour combattre les
accidents dans la medication thyroïdienne.

Nouv. Rem., 15, p. 195 (Brit. Med. Journ., 1899, 2,

p. 347; Epit., _____, p. 341; Ybk. Br. Pharm. Conf.,

37, p. 183)

Uses arsenic to counteract the tachycardia follow-
ing overdoses of preparations of the thyroid gland.

Oswald, A.

1899

Thyreoglobulin, der wirksame jodhaltige Bestandtheil der Schilddrüse.

Ztschr. f. Physiol. Chem., 26, p. 15 (Jahresber. d. Pharm. 34, p. 474)

Investigation and analysis of the thyroid extracts with ammonium sulfate, found 2 different globulins, one of which was contained combined iodine, but phosphorous free; the other iodine free but contained combined phosphorous. The globulin which was contained iodine was named thyreoglobulin.

Stanford, C. C.

1899

Darstellung eines Products aus der Schilddrüse. Chem. Ztg. 23, p. 45 (Jahresber. d. Pharm. 34, p. 475)

Discusses the isolation of the thyroglandin and thyriodin and gives the procedure used.

Gautier, A.

1900

Sur l'existence normale de l'arsenic chez les animaux et sa localisation dans certains organes. Compt. rend., 129, p. 929; (Pharm. Journ.; 1900, 60, p. 41; Prcc. A. Ph. A., 48, 856.)

Arsenic is constantly present in the thyroid gland, apparently like phosphorous and iodine, combined in the nuclein. When thyroid glands are submitted to peptic digestion, the peptones are absolutely free from arsenic, but the residual nucleins are relatively rich in that element.

Oswald, A.

1900

Zur Kenntnissdes Thyreoglobulin.

Zeitschr. physiol. Chem., 27, p. 14; Yrbk. Br. Pharm. Conf., 37, p. 72.

The principal proteid of the thyroid gland, the one to which the iodine is linked, and to which extracts of the gland owe their action, is a globulin; it is called thyreoglobulin, and contains 1.6 per cent. of iodine.

Suiffet, T.

1900

Contribution a l'etudie chimique de la glande thyroide de mouton.

Journ. de Pharm. et de Chim., S. 6, v.12, p. 52; Pharm. Journ., 65, 440; Wood & Bache; Dispens. of U. S. Am., 19 ed., p. 584; Jahresber. d. Pharm. 35, p. 414.

Confirms the results of Baumann that the iodine content of the thyroid gland varies in animals.

Antione, P.

1901

Sur la preparation des pilules de corps thyroide.

L'Union pharm., 42, p. 241; Jahresber. d. Pharm., 36, p. 389; Yrbk. Br. Pharm. Conf., 39, p. 256.

Discusses the preparation of thyroid pills using the gland, sugar, trogacinth, charcoal and syrup; after drying them, coating them with Balsam of Tolu, Benzoin, Mastiche or Gelatin.

"Galen"

1901

(Liquor Thyroidei, B.P., 1898)

(Pharm. Jour. vol. 66, p. 718; Prcc. A. Ph. A., 49, p. 917)

(Liquor Thyroidis (B.P. 1898) should undoubtedly be prepared by the dispenser as required, and suggests certain precautions concerning the selection and manipulation of the gland for this purpose.)

Merck, E.

1902

Thyreoidserum

Pharm. Ztg., 47, p. 758; (Jahresber. d. Pharm., 37, p. 435)

Discusses the preparation of thyroid serum for use in thyroidectomized animals.

White, E.

1902

Liquor Thyroidei

Yrbk. Brit. Pharm. Conf. 39, p. 419; Prcc. A. Ph. A., 51, p. 637,

Recommends a modification for producing a permanent and satisfactory preparation.

Hoenniche, D. E.

1907

Darstellung eines Schilddrusen ekstraktes.

Chem. Ztg., 1907, 31, Rep. p. 222 (Jahresber. d. Pharm. 42 p. 314)

Discusses the isolation of the constituents of thyroid extracts, giving the procedure used.

Heymann, P.

1907

Glandulae Thyreoidene.

Berl. klin. Wochenschr., 44, p. 374 (Jahresber. d. pharm., 42, 314)

Discusses the action of the thyroid in patients who suffer from Hay-fever and the variations during the hay-fever season.

Hoenniche, E.

1908

Reingewinnung der inneren Sekrete von Schilddrüsen, Kropfer und anderen Organen.

Chem. Ztg., 32, Rept. p. 275 (Jahresber. d. Pharm., 43, p. 256.)

Reports on the various endocrine secretions of the thyroid and other ductless glands.

Asher, L. & Flack, M.

1910

Die innere Sekretion der Schilddrüse und die bildung des inneren Sekretes unter dem Einfluss von Nervenreizung.

Zeitschrift. für Biologi., 55, p. 83 (Remington and Wood, Dispens. U. S., 20 ed., p. 1128.)

A single dose of thyroid produces an increased irritability of the vaso-motor center.

Hunter, A.

1910

Die Bestimmung Kleiner Mergen Jod, Insbesondere
in der Schilddruse.

Journ. Biol. Chem., 7, p. 321 (Jahresber. d. Pharm.,
45, p. 121)

Gives the procedure for the isolation of iodine
from the thyroid gland.

Pick, E. & Pineles, F.

1910

Untersuchungen uber die physiologisch wirksame
Substanz der Schilddruse.

Zeitsch. Exp. Patho. u. Ther., 7, p. 518; Remington &
Wood Dispens. U. S. of Am. 20 ed., 1127; Jahresber.
d. Pharm., 44, p. 325.

Prepared a thyroglobulin by macerating the thyroid
gland in normal salt solution and precipitating after
some weeks, the globulins with ammonium sulphate which
they assent will set aside fully developed myxedema.

Hunt, R. & Seidell, A.

1910

Thyreotropic Iodine Compounds.

Jour. Pharm. & Exp. Therap., 2, p. 15; Remington &
wood Dispens. U. S. of Am., 20 ed., p. 1128.

Shows that thyroid feeding alters the resistance
of mice to certain poisons, diminishing the suscepti-
bility to aceto nitrile, but increasing that to morphine.

Seidell, A.

1910

Thyreotropic Iodine Compounds

Jour. Pharmac. & Exp. Therap., 2, p. 15. (Remington & Wood Dispens. U. S. Of Am., 20 ed. p. 1128.)

Shows that thyroid feeding alters the resistance of mice to certain poisons, diminishing the susceptibility to acetonitrile, but increasing that to morphine.

Seidell, A.

1910

The Determination of Iodine in the Thyroid Gland.

Pharm. Journ., 84, 106 (Jabresber. d. Pharm., 45, p. 281.)

Gives what he considers the correct procedure for determining the amount of iodine in the thyroid gland.

Evans Sons, etc.

1911

Thyroid Gland

Evans' Analyt. Rpt., No. 6, p. 70; Yrbk. Br. Pharm. Conf. 49, p. 48.

Report on the analysis of a sample of the dried thyroid gland.

Bennett, R. R.

1911

A Suggested Standard for Thyroideum Siccum.

Yrbk. Brit. Pharm. Conf., 48, p. 410; Prcc. A. Ph. A.,
60, p. 516.

Because commercial preparations of thyroid vary considerably in their degree of physiological activity, and the absence of an officially recognized standardization process, has made a series of experiments with the object of suggesting an adequate method of standardization.

Beebe, S. P.

1911

The Preparation of Thyroid Extract for Therapeutic Purposes.

Am. Journ. Pharm., 83, p. 56; Prcc. A. Ph. A. 60, p. 516.

Gives a method for the preparation of thyroid extract for therapeutic use.

Bennett, R. R.

1911

(Thyroideum Siccum)

(Ratio of Moist to Dry Gland as a Standard)

(Pharm. Journ., vol. 91, p. 804; Yrbk. A. Ph. A.,
2, p. 271.)

(Not to discuss the iodine content of the thyroid gland, but rather to invite criticism upon the widely accepted statement that 1 part by weight of Thyroideum siccum represents 5 parts by weight of the fresh gland.)

Aldrich, T. B.

1912

The potency of Thyroid Gland Preparations
Jour. Am. Med. Assoc., 59, p. 1980. (Yrbk. A. Ph. A.,
1, p. 470.)

Points out that the products available in the
form of desiccated thyroid are derived from several of
the slaughter house animals, notably sheep, and the
commercial preparations are frequently standardized in
terms of their iodine content.

Martin, N. H.

1912

(Note on Iodine Content of Thyroid Gland)
(Yrbk. Br. Pharm. Conf., vol. 49, p. 408; Yrbk. A.
Ph. A., 1, p. 471)

Noteworthy that while large lobes contain much
more iodine than usual, it is not proportionate to
their increased weight, and the percentage of iodine
in the dried substance is reduced.)

1913

(Thyroprotein)

No original reference

(Yrbk. A. Ph. A., 2, p. 139.)

("Thyroprotein is a concentrated extract, re-
presenting the active constituents of the thyroid
gland, standardized to a definite iodine content".)

Guyer, R. G.

1913

(Factors Relating to the Pharmacy of Thyroid Gland)

(Yrbk. Brit. Pharm. Conf., vol. 50, p. 478; Yrbk. A. Ph. A., 2, p. 270.)

(Appears unwise to advocate a fixed factor for iodine content until certain points are conclusively decided, but that the endeavor should be made to establish a factor for the rationbetween the moist and the dried, fat-free, glandular substance.)

Seidell, A. & Ferger, F.

1913

The Iodine Content of the Thyroid Gland.

(Jour. Biol. Chem., 13, p. 517; Journ. Am. Med. Assoc., 60, p. 1000; Yrbk. A. Ph. A., 2, p. 271.)

A continued restriction of the source of pharmacopoeial thyroid to the thyroid glands of sheep would make practically impossible the production in the United States of a drug of 0.2 per cent. iodine content for all but a short period of the year.

Cameron, A. T.

1914

Iodine in the Thyroid and Parathyroid

Jour. Am. A. Assoc., 62, p. 463; Yrbk. A. Ph. A., 3, p. 307.

Results have generally given support to the theory that iodine may be expected in all thyroid tissue, but the evidence at present available strongly suggests that the parathyroids are devoid of iodine, the traces now and then reported being attributable to contamination with thyroid tissue.

Cameron, A. T.

1914

The Iodine Content of the Thyroid and some Bronchial Cleft Organs.

Journ. Biol. Chem., 16, p. 465 (Journ. Am. M. A., 62, p. 409; Yrbk. A. Ph. A., 3, p. 306)

Iodine was found to be present in the thyroid of the pigeon, alligator and frog in amounts corresponding with the iodine content of the diets of these animals.

Goodall, A

1914

(A Note on the Prescribing of Thyroid Substance.)

Drug. Cir., 58, p. 667; Brit. Med. Journ., 1914, 1, p. 1351; Yrbk. A. Ph. A., 3, p. 308.

A warning as to the danger of not being explicit in describing thyroid substances. Following the administration of this substance have been put down to tolerance or idiosyncrasy on the part of the patient, but may be due to administration of desiccated thyroid substance where fresh substance has been intended, most of the preparations on the market being labeled as to their fresh gland equivalent, causing much of this confusion.

Grall, J. A. T. & Keulemons, N.

1914

(Nog Ilets Over Schildklieren)

Pharm. Weekbl. 51, (27) p. 913; (Pharm. Jour. 93, p. 349;
Yrbk. A. Ph. A., 3, p. 307)

(Found that in thyroid glands which have been dried at a low temperature part of the active iodine-albuminoid compound remains soluble, whereas if the glands are dried at higher temperatures the whole of it is insoluble.)

Houssler, E. P.

1915

(Zur Physiologie der Schilddruse)

(Schweiz. Apoth. Ztg., 53, p. 32 & 46; Yrbk. A. Ph. A. 4, p. 163.)

(An interesting summary of our knowledge of the thyroid gland in health and disease.)

Kendall, E. C.

1915

A Method for the Decomposition of the Proteins of the thyroid, with a description of certain constituents. Jour. Biol. Chem., 20, p. 501 (Remington and Wood, Dispens. U. S. Am., 20 ed., p. 1128.)

Claims to have separated the iodine-containing principles of the thyroid in a crystalline form.

Kendall, E. C.

1915

The Isolation in Crystalline Form of the Compound Containing Iodine which Occurs in the Thyroid.

J. Am. Med. Assoc., 64, p. 2042 (Yrbk. A. Ph. A., 4, p. 163.)

Reports the isolation in crystalline form of a compound containing iodine, which occurs in the thyroid, and describes its chemical nature and physiologic activity.

Rogoff, J. M.

1917

A Method for the Standardization of Thyroid Preparations.

Jour. Pharmac. Exp. Therap., 10, p. 199; (Wood & Lowell, Dispens. U. S. of Am., 21, ed. p. 1089)

It is well established that thyroid feeding hastens the development of tadpoles into frogs. Has developed a method based upon this principle which he claims will detect variations of 10 per cent. in the activity of thyroid preparations.

1918

Thyratoxin Byla

Pharm. Weekblad., 55, p. 626 (Yrbk. A.Ph.A., 7, p. 181.)

A preparation of the thyroid gland from which the toxolipoids and toxoleucomins are removed.

(Editor)

1918

Thyrenine Greny)

Pharm. Weeksblad., 55, p. 627 (Yrbk.A.Ph.A., 7, p. 181)

The is the name for various thyroid preparations.

(Editor)

1918

Thyrodose

Pharm. Weekblad., 55, p. 627, (Yrbk. A. Ph. A., 7, p. 181)

A compound of the extract of thyroid glands and ovaries.

Carter, T.

1918

The Administration of Thyroid Gland.

Brit. Med. Journ., 1918, 1, p. 316 (Chem. and. Drug., 90, p. 775; Yrbk. A. Ph. A., 7, p. 313.)

Advocates the use in prescription of the B.P. preparation as "Thyroideum siccum" rather than the "extract" or the fresh gland.

Kendall, E. C.

1918

The Thyroid Hormone and its Relation to the Other Ductless Glands.

Endocrinology, 1918, 2, p. 81 (Yrbk. Br. Pharm. Conf., 56, p. 186.)

Assign to the thyroid, the supplying of an agent which is of fundamental importance in the production of energy. This can be carried one step further in a chemical sense, and it may be assumed that thyroxin is

involved in the production of carbon dioxide. The other ductless glands then assume positions of secondary importance to the thyroid, in carrying out these chemical reactions, and may be assigned the role of preparing the various metabolites for their final action with thyroxin.

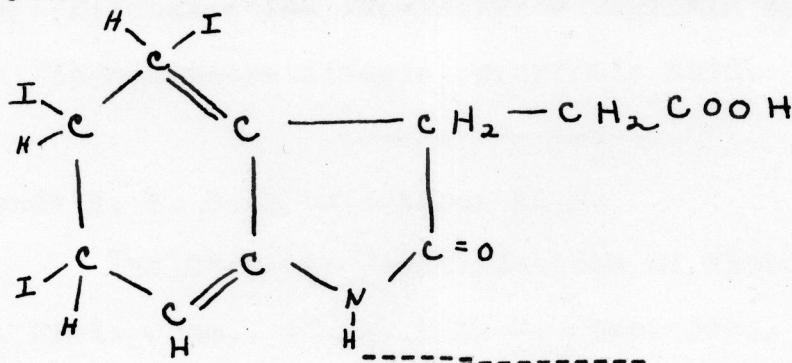
Kendall, E. C.

1918

Active Constituents of Thyroid Glands.

Jour. Am. Med. Assoc., 71, p. 871 (Yrbk. A. Ph. A., 7, p. 313)

After eight years of work and experimentation with over 2 tons of thyroids, obtained 20 grammes of a pure crystalline product, which he calls thyrooxyindol and which he assigns a structural formula:



von Os, D.

1918

(Glandulae Thyreoideae)

(Thyroid Glands -- Constituents of)

(Pharm. Weekblad, 55, p. 1426.) (Yrbk. A. Ph. A., 7, p. 313)

(Report of as found on the market of Holland and reports that these products vary considerably in the amount of moisture, fat, and iodine.)

Kendall, E. C. 1919

Isolation of the Iodine Compounds which Occur in the Thyroid.

J. Bio. Chem., 39, p. 125 (Chem. Abstr., 13, p. 2538; Yrbk. A. Ph. A., 8, p. 502)

The difficulties experienced in the preparation of thyroxin are believed to be due to variations in the composition of the thyroid (including the results of bacterial action in commercial desiccated thyroid), and to the existence of thyroxin in two labile forms.

Kendall, E. C. 1919

Constitution of Thyroxin

J. Biol. Chem., 39, p. 133, Chem. Abstr., 13, p. 2538; Yrbk. A. Ph. A., 8, p. 502.

Discusses the chemistry of thyroxin or tri-hydro-tri-iodo-keto-beta-indole, propionic acid.

Kendall, E. C. & Osterberg, A. E. 1919

The Chemical Identification of Thyroxin

J. Biol. Chem., 40, p. 265; J. Chem. Soc., vol. 118, (1)p. 150. (Yrbk. Br. Pharm. Conf., 57, p. 37)

Thyroxin, the physiologically active constituent of the thyroid gland, can exist in two tautomeric forms, the keto and enol form.

Macleod, J. J.

1919

Physiologic Relationships of Iodin

Jour. Am. Med. Assoc., 73, p. 840 Pharm.

Journ. 103, p. 537. (Yrbk. A.Ph.A., 8, p. 502.)

The importance of iodine for the proper functioning of the healthy animal organism is beginning to be appreciated.

Swingle, W. W.

1919

Relative Physiological Action of Iodine and Thyroid.

Jour. Expt. Zool., 27, p. 397 (Chem. Abstr., 13, p.

877; Yrbk. Br. Pharm. Conf., 56, p. 241)

Normal and thyroidless larvae (*Bufo lenti-ginosus*) were quickly killed by very weak solutions of I; the addition of flour appeared to restrain this toxic action.

(Frateu, J. L.)

1919

Sur la teneur en iode du corps throide chez l'homme.

Thyroid, Human, Iodine Content of

(Jour. d. Pharm. e d. Chim., S. 7, V. 20, p. 269;

Yrbk. Br. Pharm. Conf., 57, p. 37.)

The amount of I present in human Thyroids is very variable.

Zunz, E.

1920

Sur La Teneur en Phosphore et en Cendres du
Corps Thyroïde Chez l'Homme.

(Journ. d. Pharm., et d. Chim., S. ___V.___, p. 361;
Yrbk. A. Ph. A., p. 356.)

("Analyzed 32 human thyroids with the following
results: phosphorous, 0.89 to 1.82 per cent., average
1.3 per cent.,; ash 2.6 to 511 per cent., average
3. 86 per cent.; ratio of phosphorous to nitrogen,
0.062 to 0.142; ratio of iodine to nitrogen, 0.004
to 0.029; ratio of iodine to phosphorous, 0.025 to
0.422.")

Jensen, C.

1921

(Metamorphose Provoquee Par L'Injection De
Preparations Thyroidennes et de Thyroxine)

(Kendall)

A Des Axolotes ayant subi la Thyroïdectomie.
Toxicité Elevee Des Combinaisons Iodees Dans Le Cas
D'Animaux Thyroïdectomises.

Comptes Rendus de la Societe de Biologie, 85, p. 391.

(Pharm. Era, 54, p. 143; Wood and Lavall, Dispens. of
U. S. Am., 21 ed., p. 1089)

Suggests the use of the axolotl (ambystoma Mex-
icanum).

Means, J.

1921

Determination of the Basal Metabolism

(Jour. Am. Med. Assoc., 77, p. 347 (Wood and Lowall, Dispens. U.S. of Am., 21 ed., p. 1090)

Strongly deprecates the use of thyroid in any case of obesity, which is not due to sub-normal metabolism.

Epstein, A.

1922

Further Observations on the Nature and Treatment of Chronic Nephrosis.

Amer. Jour. Med. Sciences, vol. 163, p. 167 (Wood and Lowall, Dispens. U. S. Of Am., 21, ed., p. 1090.)

Among those conditions in which there is more or less suggestive evidence of its usefulness, may be mentioned uterine disorders, especially metrorrhagia; certain types of nephritis, diseases of the bones as Ununited fractures, osteo-malacia, rheumatoid arthritis, psoriasis, hay fever, asthma, hemophilia, etc.

Sammartino, U.

1922

A New Constituent of the Thyroid

Biochem. Zeitschrift., 132, p. 293; (Pharm. Jou. 109, p. 606; Yrbk. A. Ph. A., 11, p. 135)

(Reports "accrystalline substance melting at 228°C. and containing calcium, carbon, and nitrogen was obtained from thyroids.")

Fabre, R. & Penau, H.

1923

Sur le dosage de l'iode dans les extraits thyroïdiens.
(Bull. d. Sci. Pharmacol., 30, p. 188; Yrbk. A. Ph.
A., 12, p. 405)

Gives a method for the determination of iodine in
thyroid extracts.

Hunt, R.

1923

The Comparative Physiological Activity of Thyroid
and Thyroxin.

Jour. Pharmac. & Exp. Therap., 21, p. 199 (Wood and
Lowall, Dispens. U. S. of Am., 21, ed., p. 1091.)

Reached the conclusion that thyroxin does not
fully represent the physiological activity of the
thyroid gland.

Hunt, R.

1923

Comparison of the Activity of Thyroid and Thyroxin.

Journ. Pharmacol., 21, p. 199 (Yrbk. A. Ph. A., 12, p.145)

When thyroid and thyroxin were administered to
animals in doses containing the same amounts of iodine,
it was found that thyroxin was much less active than
the whole gland.

Rabinowitch, I.

1924

Action of Thyroxin

J. Biol. Chem., 62, p. 245. Yrbk. A. Ph. A., 13, p. 215.

Data to explain the nature of the period of rise in the colorigenesis curve after dosage with thyroxin.

Hunt, R.

1925

(Jour. Pharm. & Exp. Therap., 25, p. 138 (Yrbk. A. Ph. A., 14, p. 181.)

The amount of iodine in the diet and the amount stored in the body affect the resistance of mice to the toxicaction of acetoni . In this way the amount of iodine in thyroid products can be assayed.

Hunt, R.

1925

The Bio-Assay of Thyroid

Pub. Health Repts., 40, p. 1461 (Yrbk. A. Ph. A. 14, p. 181)

Suggestions are given for this bio-assay of the thyroid gland.

Hunt, R.

1925

Standardization of Thyroid Preparations

(Arch. Intern. Med., 35, p. 671 (Yrbk. A. Ph. A., 14, p. 181)

The physiological activity of thyroid preparations as determined by the methyl cyanide test on mice and by clinical observations was found to be closely parallel to the iodine content.

Jackson, _____

1925

Illinois Medical Journal, _____, p. _____ (Wood & Lowall
Dispens. U. S. Am., 21 ed., p. 1091)

Found that 50 milligrammes of thyroxin, administered
intraveneously is required to bring the basal metabolic
rate of a myxedematous patient to normal limits.

Kendall, E. C.

1925

The Influence of the Thyroid Gland on Oxidation
in the Animal Organism.

Ind. & Engl. Chem., 17, p. 525; Yrbk. A. Ph. A., 14,
p. 119.

Oxidation in the animal organism is accelerated
by small amounts of thyroid material; the activity of
the gland being definitely related to the iodine
containing compound.

Redonnet, T. A.

1925

Evaluation de la Thyroxine dans les Glandes et
Preparations de Thyroide.

Compt. Rend. Soc. Biol., 91, p. 816; (Chem. Abstr.,
19, p. 838; Yrbk. A. Ph. A., 14, p. 375)

Procedure for the determination of Thyroxin in
thyroid gland and thyroid preparations.

Straub, W.

1925

Werbbestimmung von Schilddrüsenpräparaten.

Deutsch. med. Wchnschr., 51, p. 4 (Chem. & Drug., 102, p. 879; Yrbk. A. Ph. A., 14, p. 187)

Proposed a new method of standardization for thyroid preparations based on the toxicity for mice of definite doses of acetonitrile, the lethal dose being 0.0009 gram per gram animal weight, an effect which is partially inhibited by the administration of thyroid.

Cameron, A. T. & Carmichael, J.

1926

The Relative Activity of Thyroid Fractions and Derivatives

Trans. Roy. Soc. Canada, S. 5, v. 20, p. 307 (Chem & Drug., 105, p. 942; Yrbk. A. Ph. A., 15, p. 127)

Methods for determining the relative activity of thyroid fractions and derivatives are discussed.

Cameron, A. T. & Carmichael, J.

1926

An Attempt to Evaluate Thyroid Preparations, Utilizing their Effect on Growth-rate and Production of Organ-hyertrophy in the Young White Rat.

Trans. Roy. Soc. Canada, S. 3, v. 20, p. 1 (Chem & Drug., 105, p. 942; Yrbk. A. Ph. A., 15, p. 127.)

After the examination of 11 desiccated thyroid preparations by testing on rats conclude that the

dosage of thyroid preparations should be based upon thyroid-iodine content and not upon equivalent of thyroid itself in desiccated thyroid gland products.

Ingvaldsen, T. & Cameron, A. T.

1926

Some Notes on the Iodine Compounds of the Thyroid.
Trans. Roy. Soc. Canada., S. 5, v. 20, p. 297.

A discussion on the various iodine compounds found in the thyroid with reference to their physical appearances and chemical reactions.

1928

(Observation on the Preparation and Action of Thyroxin.)

Boll. Soc. Ital. Biol., S. 3, p. 165, (Yrbk. A. Ph. A. 17, p. 755)

(During the extraction of the gland, racemic thyroxin is obtained which is not as active as the optically active thyroxin.)

Bauer, H.

1928

Uber die Wirkung des synthetischen Thyroxins beim Merscher mit gesteigerten Schilddrusen funktion. Deut. Arch. F. Klin. Med., 160, p. 212 (Munch. med. Wochschr., 75, p. 2023; Squibb. Abstr. Bull., 1, No. 52, p. 17., Yrbk. A. Ph. A., 17, p. 756.)

In a study of the effects of thyroxin on hyperth-

groidism of different types, he found that in 1/3 of the cases basal metabolism was increased to the same degree as in normal persons, with only a temporary decrease in the 3rd -5th day of the test; in the remainder of the cases the basal metabolism was not changed at all or was reduced to normal values.

Durrant, E. P.

1928

Effect of Desiccated Thyroid Feeding on Growth of the Guinea Pig.

Am. J. Physiol., 85, p. 364 (Squibb. Abstr. Bull., 1, p. 23; Yrbk. A.Ph.A., 17, p. 755)

The heavier dosage of desiccated thyroid was followed by the death of the animal in from 12 to 20 days, but all the thyroid fed animals grew less rapidly than their litter controls; the former showing an increase of weight of 12% to 480%, the latter an increase of from 75% to 675%.

Gordon, M. B.

1928

Thyroid Treatment of Alopecia Areata.

Arch. Dermat. & Syphil., 17, p. 817 (Squibb Abstr. Bull., 1, no. 25, p. 17; Yrbk. A.Ph.A., 17, p. 755.)

The administration of thyroid extract in doses of 0.006 to 0.06 Gm. at definite intervals, to a girl of 4 who represented an almost universal alopecia areata which had persisted for 9 months and had

resisted all local treatment, was followed by immediate improvement, which continued until practically all the pain had returned.

Growitz, E. R. & Dubberstein, W. 1928

Klinische Prufung Des Synthetischen Thyroxin-Henning.

Klin. Wochschr., 1, p. 797; (Much. med. Wochschr., 75, p. 876; Squibb. Abstr. Bull., 1, no. 24, p. 24. Yrbk. A.Ph.A., 17, p. 756.)

The synthetic thyroxin reacts as unobjectionably and specifically as a thyroid gland preparation producing an increase in oxidation in 48% of the cases and in 2 led to the clinical appearance of a hyperthyroid condition.

Knoffl-Lenz, E. 1928

Purpose of Unifying the Biological Valuation of Drugs-Thyroid Preparations.

Arch. exper. Path. Pharm., 135, p. 259; Squibb. Abst. Bull., 1. no. 47, p. 18 (Yrbk. A.ph.A., 17, p. 755.)

The value of thyroid preparations by biological methods, may be determined on the one hand by the natural iodine content of the preparation and on the other by its therapeutic effect in patients without Thyroid.

Sointon, P. & Veron, P.

1928

(Therapeutic Action of Synthetic Thyroxin.)

(Paris Med., 2, p. 48; J.A.M.A., 91, p. 839; Yrbk. A. Ph. A., 17, p. 756)

Ingested synthetic thyroxin produces practically the same effects as thyroid extract and can be given by mouth over a longer period of time without inconvenience provided that small and progressive doses are used and that the patients are carefully observed.

Ashley, J. N. & Harrington, C. R.

1929

Derivatives of Thyroxine

(Biochem. Jour., 22, p. 1436; (Quart. Jour. Pharmac., 2, p. 96; Yrbk. of A.Ph. A., 18, p. 355.)

("The extreme insolubility of thyroxine in the free state militates against its use for oral administration. Some simple peptides were therefore prepared in an endeavor to obtain a relatively soluble compound.")

Goslino, A. E. & Ferro, M. I.

1929

Teneur en iode des Glandes Thyroides des Bovides de l'Uruguay.

Compt. red. soc. biol., 99, p. 1446 (Chem Abstr., 23, p. 668; Yrbk. A. Ph. A., 18, p. 135.)

The iodine content ranged from 0.35% to 0.52% of the desiccated gland with the lipoids removed.

Harrington, C. R.

1929

Resolution of de-Thyroxine

(Biochem. Jour., 22, p. 1429; (Quart. J. Pharmac., 2, P. 96; Yrbk. A. Ph. A., 18, p. 135.)

("Thyroxine, when extracted from the thyroid gland, is always in the racemic condition owing to the necessary alkaline hydrolysis.")

Stasiak, A.

1929

(Iodine Content and Biologic Activity of Thyroid Preparation.)

(Magyar. Gyogy Tarsasag. Ent., 4, p. 385 (Chem. Abstr., 23, p. 1990; Yrbk. A. Ph. A., 18, p. 135.)

(The iodine content of various thyroid tablets varied greatly. Also several aqueous thyroid extracts were found to contain only traces of iodine (some thousandth mg. per c.c.)).

Ubrig, E.

1929

Die Schilddruse, im besonderen die mikroskopische Untersuchung der getrockneten Druse im Apothekenlaboratorium.

Apoth. Ztg., 44, p. 1500; Yrbk. A.Ph.A., 18, p. 135.

(A short theoretical discussion is given, with drawings showing the material before and after "clearing" with 5% potassium hydroxide solution, adulteration with starch, salt, and yeast.)

Goebel, F.

1930

Nouveau Mode de Determination Des Preparations
Thyroidiennes.

Compt. rend. Soc. Biol., 101, p. 598 (Physiolog. Abstr.
14, p. 658; Yrbk. A. Ph. A., 19, p. 109)

The administration of thyroid to thyroidectomized
dogs causes hyperglycemia after the infection of
colloidal silver. This reaction is used as a measure
of the activity of thyroid preparations.

Lunde, G., Wulfert, K.

1930

(Iodine Compounds of the Thyroid)

Endokrin., 4, p. 321 (Physiolog. Abstr., 15, p. 45;
Yrbk. A. Ph. A., 19, p. 76)

A discussion of whether thyroxine is to be regarded
as the only active principle of the thyroid gland.

Fenger, F.

1931

Geographic Location and Iodine Content of Thyroid
Gland.

Jour. Am. Chem. Soc., 53, p. 237, Yrbk. A. Ph., A.,
20, p. 81.

Calculative on the desiccated fat-free basis, the
yearly average for hog thyroid glands from N. Dakota is
0.32% iodine, while that of Texas, glands is 0.60% io-
dine. The seasonal variation in iodine content is most
pronounced in the northern glands.

Gaddum, J. H. & Hetherington, M. 1931

Activity of Thyroid Preparations Administered
Orally to Mice.

Quart. Hour. Pharm. and Pharmacol., 4, p. 183; Yrbk.
A. Ph. A., 20, p. 111.

The effect of thyroid preparations, administered orally to mice, on the total carbon dioxide production bears a linear relationship to the logarithm of the daily dose. The activity of the preparations was found to be only roughly proportional to their thyroxine content.

Gutman, A. B. 1932

Assay of Thyroid by Chemical Estimation of
Thyroxine Content.

Proc. Soc., Exper. Bio. Med., 29, p. 1198 (Chem. Abstr.,
27, p. 3555; Yrbk. A. Ph. A., 22, p. 264.)

Chemical examination of 15 different commercial thyroid products with a maximum variation of 259 p.c. Only 6 complied with the U.S.P. X. requirements if "thyroid combination" is defined as organic iodine.

Gutman, A. B.; Benedict, E.W.; Palmer, W. W. 1932

Assay of Thyroid Bychemical estimation of the
Thyroxine content.

Proc. Soc. Exper. Bio. Med., 29, p. 1198; (Squibb.
Abstr., Bull., 5, p. A-969; Yrbk. A.Ph.A., 21, p. 584)

(Thyroid tablets from 15 firms were analyzed for

total iodine by a modified tendoll method, unorganic iodine by aqueous extraction, and thyroxine by the Leland and Foster Method.)

Harrington, C. R., & Randall, S. S. 1932

Note on Water-Soluble Iodine Content of Desiccated Thyroid Gland.

Quart. Jour. Pharm. Pharmacol., 5, p. 629; Yrbk. A.Ph. A., 21, p. 334.

A preparation of thyroid which has been dried at low temperature (40°C.) may yield a large proportion of the iodine to extraction with distilled water.

Middleton, G. 1932

Chemical Assay of Thyroid Gland

Analyst, 57, p. 603; Yrbk., P. Ph. A., 21, p. 585.

The assay of thyroid gland should be based upon the acid insoluble iodine rather than on the total iodine.

Leland, J. P. & Foster, G. L. 1932

A Method for the determination of thyroxin in the Thyroid.

(Jour. Biol. Chem., 95, p. 165; Squibb. Abstr. Bull., 5, p. A-313(Yrbk. A.Ph.A., 21, p. 585.)

(Thyroxin may be separated from the other idone compounds which are present in an alkaline hydrolysate of the thyroid gland by extraction with butyl alcohol.)

Palmer, W. W. & Leland, J. P.

1932

Observations on Merck's method for standardization of thyroid gland preparations.

Proc. Soc. Exper. Biol. Med., 29, 1195 (Squibb. Abstr. Bull., 5, p. A-969 (Yrbk. A.Ph.A., 21, p. 369.)

(Merck's method for standardizing thyroid preparations is based on the increase in basal metabolism of mice when given preparations of thyroid.)

Rees, H. G., & Salway, A. H.

1932

Method for Determining thyroglobulin in Desiccated Thyroid Gland.

Auart. Jour. Pharm. Pharmacol., 5, p. 627; Yrbk. A. Ph. A., 21, p. 583.

Desiccation of the thyroid gland does not necessarily denature the whole of the thyroglobulin in the gland -- low temperature will preserve as much as 50 to 70 o.c. of the thyroglobulin in an undenatured state.

Rotter, G., Mecz, M.

1932

Standardization of Thyroid Preparation

Arch. Exper. Path. Pharmak., 166, p. 649; Chem Abstr., 26, p. 5701; Yrbk. A.Ph.A., 21, p. 370.

The biological activity of various commercial thyroid preparations is parallel to their content of thyroxine I, rather than to their total or organic iodine.

Abelin, I. 1933

The Quantative Determination of the Thyroxin content
of the Thyroid Gland and of Thyroid Preparations

Arch. Exper. Path. Pharmakol., 168, p. 722; Squibb.

Abstr. Bull., 6, p. A-183; Yrbk. A.Ph.A., 22, p. 322.

A method of the determination of thyroxin by means
of hydrolysis with an alkali and extraction with butyl
alcohol.

Barnes, B. O. 1933

Detection of Thyroxin

Am. Journ. Physiol., 105, p. 3 (Squibb. Abstr., Bull.,
6, A-979; Yrbk. A. Ph. A., 22, p. 132P)

Discusses a method of detection of the thyroid
hormone by determining the length of time required for
feathers to grow out after bein removed from brown
leghorn capons.

Cury, L., & Robert, J. 1933

Observations sur le dosage de l'iode thyroxinien
dans la poudre de glande thyroide.

(Jour. Pharm. et d. Chim., S. 18, p. 233; Yrbk. A.
Ph. A., 22, p. 294.)

(Conducts an investigation for a suitable method for
estimating the iodine content of the thyroid gland.)

Heidelberger, M. & Palmer, W. W.

1933

Thyroglandin

Jour. Biol. Chem. 101, p. 433; (Science, 80, p. 414)

Report that the preparation of highly purified thyro globulin has made possible determinations of the molecular weight of this protein in the ultra-centrifuge.

Rhodes, T. F. & Cofman, U.

1933

The Identification of Thyroid Tablets

(Pharm. Jour., 130, p. 459 (Yrbk. A.Ph. A., 22, p. 264.)

(A test for thyroid is not directly applicable to the thyroid tablets of commerce, due to the presence of lactose which gives an interference in color.)

Lerman, J. & Salter, W. T.

1934

Standardization of Thyroid Preparations

(Jour. Pharmacol., 50, p. 298; (Yrbk. A.Ph.A., 23, p. 153)

Six lots of thyroid gland tablets were given to 20 patients with myxedemia. The results of these studies indicate that there is a considerable discrepancy in the potency of various thyroid preparations. Close adherence to a uniform standard on an iodine basis is highly desirable.

Rotter, G. & Soos, E.

1934

Standardization of Preparations of Thyroid

Arch. Exptl. Path. Pharmacol., 173, p. 614 (Squibb.

Abstr. Bull., 7, (1934) A.--93; Yrbk.A.Ph.A., 23, p. 248.)

Methods of standardization for thyroid preparations vary as to their true value in the determination of thyroxin.

Abelin, I.

1935

The Activity of Various Thyroid Preparations

Arch. Exptl., Path. Pharmacol., 177, p. 359; (Squibb.

Abstr. Bull., 8, A-630; Pharm. Abstr., 1, p. 189.)

Feeding of equal amounts of thyroxin in the form of various thyroid preparations, e.g., whole thyroid, iodothyreoglobulin, fractionated thyreoglobulin, iodothyryn, and thyroxin, produced increasing illness in rats. Some of the substances gave a more pronounced calorogenic effect while the case of the rest, the other thyroid action was predominant.

Carnel, A. & Lindbergh, C.

1935

La culture de glandes thyroïdes enteres.

(Compt. rend., 201, p. 14; (Pharm. Abstr., 1, p. 340.)

(The successful culture of 15 thyroid glands, 6 from cats and 9 from cocks is described.)

H (ofman), J. J.

1935

Thyrenon pro injectione

Pharm. Weekblad., 72, p. 1043 (Pharm. Abstr., 1, p. 364.)

(Thyrenon is a thyroid preparation for subcutaneous and intramuscular injection. Each ampul contains 0.2 mg. of combined organic iron and corresponds to 1 tablet of thyrenon(100 mg. thyroid powder..))

H (ofmann), J.J.
(Editor)

1935

Thyreoid-dispert

Pharm. Weekblad., 72, p. 73.(Pharm. Abstr., 2, p. 44.)

(Thyreoid-dispert is obtained by the method of Krause and consists of the dry powder of the thyroid glands, standardized in thyroid units by the method of Straub or white mice. It appears on the market in tablets of 5 and 10 units.)

Thompson, W. O.

1935

The Pharmacology of the Thyroid in Man

Jour. Am. Med. Assoc., 104, p. 972 (Pharm. Abstr., 1, p. 247.)

A review, with discussion, of the effects produced by thyroid, thyroxin and certain compounds structurally related to thyroxin upon clinical patients.

v. Issekutz, B. & v. Issekutz, B. Jr.

1935

The Point of Action of Thyroxin

Arch. exptl. Path. Pharmacol., 177, p. 442; Squibb.
Abstr. Bull., 8, A-630; Pharm. Abstr., 1, p. 190.)

Experiments on anaesthetized cats before and after decapitation or section of the spinal cord in the cervical or dorsal region indicate that the main point where the action of thyroxin occurs is the midbrain. Increase in metabolism takes place because of irritation of this center.

Wokes, F.

1935

Acetonitrile Test for Thyroid.

Quart. Jour. Pharm. Pharmacol., 8, p. 54; Pharm. Abstr.,
1, p. 189.

The acetonitrile test for thyroid using mice of both sexes was carried out varying the conditions of observation. The susceptibility of mice to acetonitrile poisoning, and the degree of protection afforded by thyroid, are both affected by the temperature at which the mice are kept.

Beal, G. D. & Szalkowski, C. R. 1936

Determination of Iodine in Thyroid

Preced. Am. Drug. Manuf. Assoc., 24, p. 208 (Squibb. Abstr. Bull., 8, p. A-1392; Pharm. Abstr., 2, p. 44.)

A method was recommended for incorporation in U.S.P. XI which agrees in principle with the present official method, but contains changes which aim to clarify the direction and eliminate uncertainties.

Canzanelli, A., Guild, R., & Harington, C. R. 1936

Ketonic Acid Analogous with Thyroxine

Biochem. Journ., 29, p. 1617; Quart. Jour., Pharmacol., 8, p. 719; (Pharm. Abstr., 2, p. 200.)

The exhibition of typical thyroid-like activity by a compound appears to depend on the presence in its molecule of the thyroxine nucleus halogenated in the 3:5 positions. Since many physiologically active amino-acids can be replaced by the corresponding keto-acid, the keto-acid corresponding to thyroxine was synthesized.

Corran, R., Pritchard, J., & Rynill, F. E. 1936

Thyroid Standardization and Dosage.

(Quart. Jour. Pharm. Pharmacol., 8, p. 331; Pharm. Abstr., 2, p. 151.)

Claim that the variation in the total iodine and thyroxine iodine contents of fresh gland and dried,

defatted glands is so great that there can be no satisfactory correlation between thyroid B. P., 1932, and preparations expressed in terms of fresh gland or unstandardized dried, defatted gland.

Nadler, S. B. & Thompson, W. O. 1936

The Enzymatic Digestion of Desiccated Thyroid
Proc. Soc. Exptl. Biol. Med., 34, p. 306; Pharm. Abstr.
2, p. 308.

Digestion with either pepsin or trypsin transforms 55 and 60%, respectively, of the total iodine into the acid soluble form.

Corran, R. F. 1936

The Standardization and Dosage of Thyroid.
Pharm. Jour. 135, p. 781; Pharm. Abstr., 2, p. 44.

It is suggested that tables should contain all the information required to make a comparison between the more common official and non-official thyroid preparations.

Beal, G. D. & Szalkowski, C. R. 1936

Study of the U. S. P. Thyroid Assay
Jour. Am. Pharm. Assoc., 24, p. 943; Pharm. Abstr.,
2, p. 44.

A method for the determination of iodine content and better directions in the procedure are given.

Younghen, H. W.

1936

Microscopy of Powdered Desiccated Thyroid and
Suprorenol.

Journ. Am. Phar. Assoc., 25, p. 103; Pharm. Abstr. 2, p.220.

It has become evident that biological assays alone will not entirely satisfy the purity or the identity standards of powdered desiccated endornni glands. Unless there are microscopic descriptions available, adulteration with organic cellular material may be formed.

(Sub-committee on Digestive Ferments &
Glandular Products

1936

Thyroid Tablets

Prcc. Am. Drug. Manuf. Assoc., 24, p. 190 (Squibb.
Abstr. Bull., 8, p. A-1392; Pharm. Abstr., 2, p. 45.)

Suggested that an assay for all thyroid tablets be omitted from the U.S.P. for at least a year or until adequate studies can be made.

Baljet, A.

1936

Iodoglandine

Pharm. Weekblad., 73, p. 220; (Pharm. Abstr., 2, p.282.)

It is claimed that the above named substance contains the active constituents of thyroidgland.

Books Consulted

Proceedings of American Pharmaceutical Association,
1880 - 1911.

Yearbook of the American Pharmaceutical Association,
1912 - 1936.

Yearbook of the British Pharmaceutical Conference,
1904 - 1927.

United States Pharmacopoeiae, 1820 - 1930.

National Formulary, 1888 - 1935.

Approved W. O. Richtmann

Prof. of Pharmacology.
