

LITTERATURLISTE til bogen

COLLAGEN
STÆRK, SUND og SMERTEFRI

af Jerk W. Langer & Karen Lyager

I forbindelse med udarbejdelse af bogen har vi gennemgået et meget stort antal bøger, artikler, historiske kilder og kliniske studier. Listen opdateres løbende med ny viden.

Opdateret 15. maj 2020

Send gerne kommentarer og mulige referencer til jerk@langer.dk

KAPITEL 1 - SPIS SOM DIN OLDEMOR

Se referencerne til dette kapitel sidst i denne fil.

KAPITEL 2 - COLLAGEN FOR BEGYNDERE

Interview:

Yu Fu. Professor, forskningschef i fødevarevidenskab på Southwest University i Kina. Tidligere Aarhus Universitet og Københavns Universitet.

Interview:

Hanne Christine Bertram. Professor i fødevarevidenskab ved Aarhus Universitet.

The triple helix of collagens - an ancient protein structure that enabled animal multicellularity and tissue evolution. Aaron Let al. J Cell Sci 2018;9;131(7)
<https://jcs.biologists.org/content/131/7/jcs203950.abstract>

Collagen - forskellige typer
<https://en.wikipedia.org/wiki/Collagen>

Kroppens optag af collagen
Enzymatic Hydrolysis of a Collagen Hydrolysate Enhances Postprandial Absorption Rate - A Randomized Controlled Trial. Skov K1 et al. Nutrients 2019;11(5)
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Side 39 - data bag grafikken

Beneficial Effects of Collagen Hydrolysate: A Review on Recent Developments. Hongdong Song et al. Biomedical Journal of Scientific & Technical Research 2017;1(2),458-461
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Plasma Amino Acid Concentrations After the Ingestion of Dairy and Collagen Proteins, in Healthy Active Males. Rebekah D et al. Front Nutr 2019;6:163
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6803522/>

Effect of Collagen Tripeptide on Atherosclerosis in Healthy Humans. J Atheroscler Thromb. 2017 May 1;24(5):530-538
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5429168/>

Collagen Supplementation: Is It All Hype? International Food Information Council. June 11, 2019
<https://foodinsight.org/collagen-supplementation-is-it-all-hype/>

KAPITEL 3 - BEVÆGELSESFRIHEDEN LÆNGE LEVE

Interview:

Michael Kjær. Klinisk professor i idrætsmedicin på Institut for Klinisk Medicin ved Københavns Universitet. Overlæge på Bispebjerg og Frederiksberg Hospital.

Interview:

Arne Astrup. Professor ved Institut for Idræt og Ernæring på Københavns Universitet. Programdirektør Novo Nordisk Fonden.

Interview:

Lars Hyldstrup. Overlæge, dr.med. Osteoporoseekspert. Medlem af landsbestyrelsen for Osteoporose-foreningen.

Interview:

Gregory Shaw. Ernæringsansvarlig for Swimming Australia.

Interview:

Lars Holm. Forskningschef i Team Danmark. Lektor på Center for Sund Aldring på Københavns Universitet og postdoc ved Institut for Idrætsmedicin ved Bispebjerg Hospital. Baggrund som professor ved University of Birmingham, School of Sport, Exercise and Rehabilitation Sciences.

Interview:

Tom Clifford. Forsker og underviser i fysiologi og ernæring på Loughborough University, Leicestershire, UK

- LED

Side 46 - Smertedata

- <http://nfa.dk/da/nyt/nyheder/2018/smerter-i-kroppen-hos-hver-tredje-lonmodtager>

- <https://www.dr.dk/nyheder/indland/aeldre-medarbejdere-i-ny-undersoegelse-halvdelen-har-smerter-hver-uge>

Side 49 - Metaanalyse

Dietary supplements for treating osteoarthritis: a systematic review and meta-analysis. Liu X et al. Br J Sports Med 2018;52(3):167-175

[https://www.oarsijournal.com/article/S1063-4584\(17\)30543-5/fulltext](https://www.oarsijournal.com/article/S1063-4584(17)30543-5/fulltext)

Side 49 - Indisk studie

A double-blind, placebo-controlled, randomised, clinical study on the effectiveness of collagen peptide on osteoarthritis. Kumar, S et al. J Sci Food Agric 2015;95(4):702-7

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Side 49 - Tredje forskergruppe

Collagen peptides improve knee osteoarthritis in elderly women: A 6-month randomized, double-blind, placebo-controlled study. Jiang J.X. et al. Agro FOOD Industry Hi Tech 2014;25:19-23

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Side 50 - Collagenpeptider vs. chondroitin

Efficacy and tolerability of an undenatured type II collagen supplement in modulating knee osteoarthritis symptoms: a multicenter randomized, double-blind, placebo-controlled study. Lugo JP et al. Nutr J 2016;15:14

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Side 50 - Genopbygning af ledbrusk

Daily oral consumption of hydrolyzed type 1 collagen is chondroprotective and anti-inflammatory in murine posttraumatic osteoarthritis. Dar Q-A et al. PLoS ONE 2017;12(4):e0174705

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Side 54 - Leddegigt

A multicenter, double-blind, randomized, controlled phase III clinical trial of chicken type II collagen in rheumatoid arthritis. Wei W et al. Arthritis Res Ther 2009;11(6):R180

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Efficacy of oral collagen in joint pain - osteoarthritis and rheumatoid arthritis. Woo T et al. J Arthritis 2017;6:233

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- KNOGLER

Osteoporose i Danmark

<https://www.sygeforsikring.dk/nyt-sundt/knogleskoerhed-den-skjulte-sygdom>

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Side 59 - Calcium

Menneskets Ernæring 2015. 4. udgave, s. 532. Munksgaard

Side 61 - Dyrestudier

- Hydrolyzed collagen improves bone metabolism and biomechanical parameters in ovariectomized mice: an in vitro and in vivo study. Guillerminet, F et al. Bone 2010;46(3):827-834

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Combined oral administration of bovine collagen peptides with Calcium citrate inhibits bone loss in ovariectomized rats. Liu JL, et al. PLoS ONE 2015, 10 (8):e0135019

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Collagenstudier

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- TRÆNING

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Collagen peptide supplementation in combination with resistance training improves body composition and increases muscle strength in elderly sarcopenic men: a randomised controlled trial. Zdzieblik D et al. Br J Nutr 2015 Oct 28;114(8):1237-1245

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Tendon Stiffness, Collagen Production & Gelatin for Performance & Injury. Keith Baar. Podcast episode 143. September 13, 2016.

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Improvement of activity-related knee joint discomfort following supplementation of specific collagen peptides. Zdzieblik D et al. *Appl Physiol Nutr Metab* 2017;42(6):588-595
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Effectiveness of collagen supplementation on pain scores in healthy individuals with self-reported knee pain; A randomized controlled trial. Coen C. et al. *Appl Physiol Nutr Metab*. 2020 Jan 28
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Side 72 - restitution

The effects of collagen peptides on muscle damage, inflammation and bone turnover following exercise: a randomized, controlled trial. Clifford T et al. *Amino Acids* 2019;51:691
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Runsafe, Institut for Folkesundhed, Aarhus Universitet.
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Team Danmark: Sportsskader - forebyggelse og behandling

<https://umbraco.teamdanmark.dk/media/1834/06138-sportsskader-boeger-team-danmark.pdf?>

Team Danmark: Skadesforebyggende træning

<https://teamdanmark.dk/traen-som-en-atlet/sportsmedicin/skadesforebyggende-traening>

KAPITEL 4 - FRISK OG SPÆNDSTIG HUD INDEFRA

Interview:

Peter Bjerring. Professor dr. med. Overlæge på afdelingen for hud- og kønssygdomme ved Aalborg Universitetshospital.

Interview:

Janne Prawitt. Biolog og ernæringsforsker. Forskningsleder hos virksomheden Rousset.

Interview:

Finn Gottrup. Professor. Tidligere leder af Videncenter for Sårheling på Bispebjerg Hospital og Odense Universitetscenter for Sårheling.

Interview:

Glynis Ablon. Læge. Ablon Skin Institute Research Center, Manhattan Beach, Californien.

Kollagen er afgørende for spændstig hud, sårheling og forebyggelse af slidgigt. Hanne Christine Bertram. 13. dec. 2017. Videnskab.dk
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Fugt

The effect of oral collagen peptide supplementation on skin moisture and the dermal collagen network: evidence from an ex vivo model and randomized, placebo-controlled clinical trials. Asserin, J. et al. *Journal of Cosmetic Dermatology* 2015;14:291-301
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Daily oral supplementation with collagen peptides combined with vitamins and other bioactive compounds improves skin elasticity and has a beneficial effect on joint and general wellbeing. Czajka A et al. *Nutr Res* 2018;57:97-108
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Oral supplementation of specific collagen peptides has beneficial effects on human skin physiology: a double-blind, placebo-controlled study. Kania EM, et al. *Skin Pharmacol Physiol* 2014;27:47-55
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Ingestion of bioactive collagen hydrolysates enhanced pressure ulcer healing in a randomized double-blind placebo-controlled clinical study. Sugihara F et al. *Sci Rep* 2018;8(1):11403

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Anti-inflammatory effect of collagen tripeptide in atopic dermatitis. Hakuta et al. *J Dermatol Sci* 2017;88(3):357-364

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Rygning

Less collagen production in smokers. Jørgensen LN et al. *Surgery* 1998;123:450-5

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Sukker

- High serum glucose levels are associated with a higher perceived age.

Noordam R et al. *AGE* 2013;35:189-195

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3543736/>

- Effects of Long-Term Physical Activity and Diet on Skin Glycation and Achilles Tendon Structure. Hjerrild JN et al. *Nutrients* 2019;11(6):1409

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6627972/>

- Nutrition and aging skin: Sugar and glycation. Danby FW. *Clin Dermatol* 2010;28(4):409-411

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Grøn te

- Green Tea Extract Suppresses the Age-Related Increase in Collagen Crosslinking and Fluorescent Products in C57BL/6 Mice. Rutter K et al. *Int J Vitam Nutr Res* 2003;73(6):453-460

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- Green tea extract protects human skin fibroblasts from reactive oxygen species induced necrosis. Silverberg J et al. *J Drugs Dermatol* 2011;10(10):1096-101

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Gærflager

Shiseido Reveals the Relevance of Capillaries in Skin Elasticity. Shiseido press release. Oct. 16, 2019

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Cellulite

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Negle

Oral supplementation with specific bioactive collagen peptides improves nail growth and reduces symptoms of brittle nails. Hexsel D et al. J Cosmet Dermatol. 2017;16(4):520-526
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Hår

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<https://jddonline.com/articles/dermatology/S1545961618P0558X/>

KAPITEL 5 - DE BEDSTE KILDER TIL COLLAGEN I MADEN

Interview:

Flemming Jessen. Seniorforsker ved DTU Fødevareinstituttet.

Interview:

Yu Fu. Professor, forskningschef i fødevarevidenskab på Southwest University i Kina. Tidligere Aarhus Universitet og Københavns Universitet.

Blæksprutter

- Collagen from squid and its biological activity. Dhanya PJ et al. International Journal of Current Pharmaceutical Research. March 2017
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<https://www.berlingske.dk/det-gode-liv/blaeksprutter-er-fremtidens-baeredygtige-mad>

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Functional and bioactive properties of collagen and gelatin from alternative sources: A review. Gómez-Guillén MC et al. Food Hydrocolloids 2011;25,8,1813-1827
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CO2-aftryk

Controversies in Science and Technology: From Sustainability to Surveillance, vol 4. 2014, s. 100. Oxford University Press
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KAPITEL 6 - SÆT EKSTRA FUT I KROPPENS COLLAGENFABRIK

Biochemistry, Collagen Synthesis. Wu M et al. StatPearls. April 21, 2019 <https://www.ncbi.nlm.nih.gov/books/NBK507709/>

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Sporstoffer

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- Zinc may increase bone formation through stimulating cell proliferation, alkaline phosphatase activity and collagen synthesis in osteoblastic MC3T3-E1 cells. Nutr Res Pract 2010;4(5):356-361
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- Influence of zinc on synthesis and the accumulation of collagen in early granulation tissue. Tengrup I et al. Surg Gynecol Obstet. 1981 Mar;152(3):323-6
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Svovl

Changes in Collagen Metabolism Caused by Feeding Diets Low in Inorganic Sulfur. Brown RG et al. The Journal of Nutrition 1965, 87, 228-232
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- Lycopene, a powerful antioxidant, significantly reduces the development of the adhesion phenotype. Fletcher NM et al. Syst Biol Reprod Med. 2014 Feb;60(1):14-20.
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- Molecular evidence that oral supplementation with lycopene or lutein protects human skin against ultraviolet radiation: results from a double-blinded, placebo-controlled, crossover study. Grether-Beck S et al. Br J Dermatol. 2017 May;176(5):1231-1240
<https://onlinelibrary.wiley.com/doi/full/10.1111/bjd.15080>
- Fruits and vegetables that are sources for lutein and zeaxanthin: the macular pigment in human eyes. Sommerburg O et al. Br J Ophthalmol 1998;82:907-910
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Frugtmarinering

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- Ananas og bromelin. Katrine Meyn. Dansk Kemi. 28. 01. 2019
<https://www.kemifokus.dk/ananas-og-bromelin>
- The digestion of collagen. Joseph M. Miller, Benjamin Goldman. The Journal Of Investigative Dermatology 1958
<https://core.ac.uk/download/pdf/82540898.pdf>
- Effect of papain and bromelin on muscle and collagen proteins in beef meat. Ionescu et al. The Annals of the University Dunarea de Jos of Galati Fascicle VI – Food Technology, New Series, II (XXXI), 2008, 9-16
<https://pdfs.semanticscholar.org/22dc/7fc79a5b755bc2c3d401413747f9617f86ae.pdf>

KAPITEL 7 - ANTIINFLAMMATORISK LIVSSTIL

Interview:

Michael Kjær. Klinisk professor i idrætsmedicin på Institut for Klinisk Medicin ved Københavns Universitet. Overlæge på Bispebjerg og Frederiksberg Hospital.

21 Nye Antiinflammatoriske Dage. Jerk W. Langer et al. Politikens Forlag 2018
Se også denne bogs litteraturliste:
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Chronic inflammation in the etiology of disease across the life span. Nature Medicine 2019;25(12):1822-1832
<https://www.nature.com/articles/s41591-019-0675-0>

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Dietary inflammatory index and risk of gynecological cancers: a systematic review and meta-analysis of observational studies. *J Gynecol Oncol.* 2019 May;30(3):e23

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Anti-inflammatory Effect of Mediterranean Diet in Type 2 Diabetes Is Durable: 8-Year Follow-up of a Controlled Trial. *Diabetes Care* 2016;39:e44–e45

<https://care.diabetesjournals.org/content/39/3/e44>

Association of animal and plant protein intake with all-cause and cause-specific mortality. *JAMA Intern Med* 2019;179(11):1509-1518

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Anti-inflammatory diet in clinical practice: a review. *Nutrition and Inflammation* 2017,32(3),318-325

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A diet based on multiple functional concepts improves cardiometabolic risk parameters in healthy subjects. *Nutrition & Metabolism* 2012, 9:29

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A diet based on multiple functional concepts improves cognitive performance in healthy subjects. *Nutrition & Metabolism* 2013, 10:49

<https://nutritionandmetabolism.biomedcentral.com/articles/10.1186/1743-7075-10-49>

The influence of an anti-inflammatory diet on gingivitis. A randomized controlled trial. *Journal of Clinical Periodontology* 2019; 46(4): 481-490

<https://onlinelibrary.wiley.com/doi/abs/10.1111/jcpe.13094>

The Human Intestinal Microbiome in Health and Disease. *N Engl J Med* 2016;375(24):2369-2379

<https://www.nejm.org/doi/full/10.1056/NEJMra1600266>

The microbiome and risk for atherosclerosis. *JAMA* 2018;319(23):2381-2382

<https://www.nejm.org/doi/full/10.1056/NEJMra1600266>

Your microbes at work: fiber fermenters keep us healthy. *Nature* 2015;518(7540):S9

<https://www.nature.com/articles/518S9a>

Carbs and cooking. Diabetes UK

<https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/carbohydrates-and-diabetes/carbs-and-cooking>

Association between ultraprocessed food consumption and risk of mortality among middle-aged adults in France. JAMA Intern Med 2019;179(4):490-498
<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2723626>

KAPITEL 9 - TIPS & TRICKS TIL DET NEMME COLLAGENKØKKEN

Interview:

Kjeld Sørensen. Kok. Bl.a. tidligere souschef på restaurant Den Gyldne Fortun.

Interview:

Yu Fu. Professor, forskningschef i fødevidenskab på Southwest University i Kina. Tidligere Aarhus Universitet og Københavns Universitet.

The science of slow cooking

https://www.scienceofcooking.com/meat/slow_cooking1.htm

KAPITEL 11 - COLLAGENTILSKUD

Interview:

Yu Fu. Professor, forskningschef i fødevidenskab på Southwest University i Kina. Tidligere Aarhus Universitet og Københavns Universitet.

Tendon Stiffness, Collagen Production & Gelatin for Performance & Injury.

Keith Baar. Podcast episode 143. September 13, 2016.

<https://sigmanutrition.com/episode143/>

15 minutter til madlavning hver dag: Madkulturen #1 2019

https://www.madkulturen.dk/wp-content/uploads/2019/11/MKxMT_Madtanker1-det-hjemmelavede-m%C3%A5ltid-i-frit-fald.pdf

KAPITEL 1 - SPIS SOM DIN OLDEMOR

Overordnet kilde og researcher:

Svend Aage Christensen. Historiker, forsker emeritus.

Interview:

Yu Fu. Professor, forskningschef i fødevidenskab på Southwest University i Kina. Tidligere Aarhus Universitet og Københavns Universitet.

Suppe som terapeutisk ret

<https://theconversation.com/can-chicken-soup-really-cure-body-and-soul-52357>

Suppe i jægerstenalderen

Nourishing Broth: An Old-Fashioned Remedy for the Modern World

<https://www.amazon.com/Nourishing-Broth-Old-Fashioned-Remedy-Modern/dp/1455529222>

Kineserne kogte for over 2500 år siden en særlig bouillon, som de mente at kunne styrke nyrer og fordøjelse.

BBC: Chinese archaeologists unearth 2,400-year-old 'soup'

<https://www.bbc.com/news/world-asia-pacific-11981666>

<https://museum-of-artifacts.blogspot.com/2015/10/chinese-2400-year-old-pot-of-soup-found.html>

Hippokrates (460-370 f.Kr) ordinerede suppe mod en række sygdomme.

Laurence Totelin. Journal of Ethnopharmacology 2015

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4469375/>

Hippocrates of Kos, the father of clinical medicine, and Asclepiades of Bithynia, the father of molecular medicine. Review. Yapijakis C.

<https://www.ncbi.nlm.nih.gov/pubmed/19567383>

Sort suppe i den græske bystat Sparta

https://en.wikipedia.org/wiki/Black_soup

When Feeding the Troops, Flavor is Rarely on the Menu

<https://www.nationalgeographic.com/culture/food/the-plate/2015/03/04/feeding-the-troops/>

Maimonides

- Fred Rosner: The Medical Legacy of Moses Maimonides

- Moses Maimonides on the Causes of Symptoms. British Medical Journal 1975:

<https://www.bmj.com/content/3/5978/314.1>

Therapeutic Efficacy of Chicken Soup. Chest, 78. 4. oktober 1980

[https://journal.chestnet.org/article/S0012-3692\(16\)40246-1/pdf](https://journal.chestnet.org/article/S0012-3692(16)40246-1/pdf)

"Good broth can resurrect the dead"

Dr. Kevin Lau. Your Plan for Natural Scoliosis Prevention and Treatment

(gengives også mange andre steder, men umiddelbart ikke muligt at påvise en tilsyneladende originalkilde)

Ordet 'restaurer'

<https://jimmcneill.wordpress.com/2011/06/14/restaurant-%E2%80%93-funny-word-that-%E2%80%93-whats-its-origins/>

Napoleon: "Det er suppen, der skaber soldaten".

- <http://researchingfoodhistory.blogspot.com/2014/11/soup-makes-soldier.html>

- Joseph-Romain-Louis de Kirckhoff: Hygiène Militaire, a l'usage des Armées de Terre, 1823, side 109

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5612074/>

- Den nærende suppe, der skulle fyre op under hans krigere, blev kogt i mindst seks timer på skeletdelene fra gårsdagens måltider, typisk okse, kalv eller får, eller i mangel af bedre hest.

Hygiène Militaire, a l'usage des Armées de Terre,

[https://books.google.dk/books?id=b8tEAAAACAAJ&pg=PP5&lpg=PP5&dq=hygiene+militaire,+a+l%27usage+des+armees+de+terre&source=bl&ots=ZFuv5D6xs0&sig=ACfU3U0PtIM5yuTNjh-](https://books.google.dk/books?id=b8tEAAAACAAJ&pg=PP5&lpg=PP5&dq=hygiene+militaire,+a+l%27usage+des+armees+de+terre&source=bl&ots=ZFuv5D6xs0&sig=ACfU3U0PtIM5yuTNjh-0VVkh6QO12gXS6A&hl=en&sa=X&ved=2ahUKewjnj_mUgdbmAhUMTsAKHRdIDV0Q6AEwAnoECAgQAQ#v=onepage&q=hygiene%20militaire%2C%20a%20usage%20des%20armees%20de%20terre&f=false)

[0VVkh6QO12gXS6A&hl=en&sa=X&ved=2ahUKewjnj_mUgdbmAhUMTsAKHRdIDV0Q6AEwAnoECAgQAQ#v=onepage&q=hygiene%20militaire%2C%20a%20usage%20des%20armees%20de%20terre&f=false](https://books.google.dk/books?id=b8tEAAAACAAJ&pg=PP5&lpg=PP5&dq=hygiene+militaire,+a+l%27usage+des+armees+de+terre&source=bl&ots=ZFuv5D6xs0&sig=ACfU3U0PtIM5yuTNjh-0VVkh6QO12gXS6A&hl=en&sa=X&ved=2ahUKewjnj_mUgdbmAhUMTsAKHRdIDV0Q6AEwAnoECAgQAQ#v=onepage&q=hygiene%20militaire%2C%20a%20usage%20des%20armees%20de%20terre&f=false)

- Franske soldater anså bouillonterninger for at være langt under deres værdighed. Napoleon's Infantry Handbook af Terry Crowdy, side 228-229 og 231

[https://books.google.dk/books?id=bOeZBgAAQBAJ&pg=PA231&lpg=PA231&q=napoleon+bone+broth&source=bl&ots=eOsJcSV_o_&sig=ACfU3U2OIE-MjM8HPR7PaKD0K7XIowql7w&hl=en&sa=X&ved=2ahUKewj35uvU6ITkAhV6wAIHHS-](https://books.google.dk/books?id=bOeZBgAAQBAJ&pg=PA231&lpg=PA231&q=napoleon+bone+broth&source=bl&ots=eOsJcSV_o_&sig=ACfU3U2OIE-MjM8HPR7PaKD0K7XIowql7w&hl=en&sa=X&ved=2ahUKewj35uvU6ITkAhV6wAIHHS-jCVEQ6AEwEHoECA0QAQ#v=onepage&q=napoleon%20bone%20broth&f=false)

[jCVEQ6AEwEHoECA0QAQ#v=onepage&q=napoleon%20bone%20broth&f=false](https://books.google.dk/books?id=bOeZBgAAQBAJ&pg=PA231&lpg=PA231&q=napoleon+bone+broth&source=bl&ots=eOsJcSV_o_&sig=ACfU3U2OIE-MjM8HPR7PaKD0K7XIowql7w&hl=en&sa=X&ved=2ahUKewj35uvU6ITkAhV6wAIHHS-jCVEQ6AEwEHoECA0QAQ#v=onepage&q=napoleon%20bone%20broth&f=false)

- National Public Radio.

<https://www.npr.org/sections/thesalt/2015/06/18/414614705/appetite-for-war-what-napoleon-and-his-men-ate-on-the-march>

- Soldaterne havde krav på to suppemåltiderne om dagen ifølge et regulativ af 1. juli 1788. Napoleon's Infantry Handbook - page 228

- Arkæologiske analyser af bl.a. collagenindholdet i knoglerne fra franske soldater i en massegrav ved Vilnius i Litauen

Stable isotope evidence for the geographic origins and military movement of Napoleonic soldiers during the march from Moscow in 1812.

https://www.researchgate.net/publication/228788135_Discovery_of_a_mass_grave_of_Napoleonic_period_in_Lithuania_1812_Vilnius

COLLAGENPIONERERNE

DENIS PAPIN

Papins Digestor blev beskrevet af Denis Papin selv i en bog fra 1681 og i en medicinsk doktorafhandling i Basel i 1769.

<https://wellcomecollection.org/works/fncem3dg/items?canvas=3&sierraId=b30375587>

Tegninger af Papins kedel hen mod slutningen af disputatsen på

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<https://wellcomecollection.org/works/fncem3dg/items?canvas=71&sierraId=b30375587>

-

<https://wellcomecollection.org/works/fncem3dg/items?canvas=73&sierraId=b30375587>

Papins egen bog

- <https://twitter.com/sciencemuseum/status/899980742775713793?lang=ca>

- https://commons.wikimedia.org/wiki/File:Papin%27s_digester_-_the_first_form_of_pressure_cooker._Wellcome_M0011059.jpg

- Engelsk titel på bog: A new digester or engine for softening bones, containing the description of its make and use in these particulars: viz, cookery, voyages at sea, confectionary, making of drinks, chymistry, and dying. With an account of the price a good big engine will cost, and of the profit it will afford.

<https://archive.org/details/b30330245/page/n11>

DOMINIQUE JEAN LARREY

- https://en.wikipedia.org/wiki/Dominique_Jean_Larrey

-

https://books.google.dk/books?id=0D8UAAAAQAAJ&pg=PA281&dq=Dominique+Jean_Larrey+bouillon&hl=en&sa=X&ved=0ahUKEwjJ39z0j9rmAhWIJFAKHSpFDzUQ6AEIKzAA#v=onepage&q=Dominique-Jean_Larrey%20bouillon&f=false

-

https://books.google.dk/books?id=RBc_AAAAcAAJ&pg=PA91&dq=Dominique-Jean_Larrey+bouillon&hl=en&sa=X&ved=0ahUKEwitwPi9kNrmAhVCLVAKHWCVByUQ6wEIOTAB#v=onepage&q=Dominique-Jean_Larrey%20bouillon&f=false

- Surgical Clinics from Military Camps and Hospitals mellem 1792 og 1829, col. 10, chez gabon, Paris, 1829 - muligvis den samme som Mémoires de chirurgie militaire et histoire de ses sumpagnes, vol. 3, Paris 1812?

- Bibliothek for Læger - redigeret af C. Otto - side 234. Det Classenske Litteraturselskab, København, 1821. I google-søgningen står der: "Larrey lader først sine egne Luksusheste slagte og derpaa nogle af stabsofficernes og koger suppe på Kødet i"

- Archiv for historie og geographie - side 234

"Hr. Larray i særdeleshed var fortrinlig. Efter at have opereret alle de sårede af garden, som var sammenhobede på øen Lobau, spurgte han, om der var noget suppe, man kunne give dem. Nej, svarede hans hjælpere. Så må der laves, sagde han idet han pegede på adskillige heste i nærheden af ham. Tag hestene, som er ved denne Piquet. Disse heste tilhørte en general. Da man nærmede sig for at adlyde hr. Larray, bliver ejeren rasende, skriger og bander

på, at han ikke vil lade dem tage dem bort. Nej vel, så tag mine, sagde den brave kirurg. Slagt dem, og lad mine kammerater få suppe.

- The Edinburgh Medical and Surgical Journal, side 217

<https://books.google.dk/books?id=aMNOAAAACAAJ&pg=PA217&lpg=PA217&dq=Larrey+bone+soup&source=bl&ots=eR7cmUh9CP&sig=ACfU3U1KUL6KKBJQzClwehd66Af6F3YpWQ&hl=en&sa=X&ved=2ahUKEwiam6jnh9rmAhXKPFAXHTYAS0Q6AEwHXoECACQAQ#v=onepage&q=Larrey%20bone%20soup&f=false>

<https://archive.org/details/militarymedicine42asso/page/n4>

ANTOINE-ALEXIS CADET DE VAUX (1743-1828)

Hans egen bog: De la gélatine des os et de son bouillon, précédée de considérations sur le vice du régime alimentaire des classes populeuses.

<https://gallica.bnf.fr/ark:/12148/bpt6k9644828f/f9.item.r=soupe>

Consumers and Luxury: Consumer Culture in Europe 1650-1850 side 175

<https://books.google.dk/books?id=7n27AAAAIAAJ&pg=PA175&lpg=PA175&dq=caudet+de+vaux+soup&source=bl&ots=rZo-0gvTJH&sig=ACfU3U3APv0bNYvTTkmZpJ3yIYwQrTCACw&hl=en&sa=X&ved=2ahUKEwjpnqXendrmAhWkaIAKHcHZDyYQ6AEwAHoECAYQAQ#v=onepage&q=caudet%20de%20vaux%20soup&f=false>

https://books.google.dk/books?id=M_NdAAAACAAJ&pg=PA190&lpg=PA190&dq=caudet+de+baur+suppe+knochen&source=bl&ots=etWu9QP-Sd&sig=ACfU3U201oaMmsrIEx15WqWgqIIUBfCISQ&hl=en&sa=X&ved=2ahUKewjV96CyodrmAhVKb1AKHbpWCjMQ6AEwCnoECACQAQ#v=onepage&q=caudet%20de%20baur%20suppe%20knochen&f=false

<https://books.google.dk/books?id=ESgTAAAYAAJ&pg=PA361&lpg=PA361&dq=caudet+de+baur+knochen&source=bl&ots=Y9-T82MRSn&sig=ACfU3U3sSCu92p6AyWjEbdwgCGRvqKr6fQ&hl=en&sa=X&ved=2ahUKEwjcutKrotrmAhUIJIAKHTgsBTEQ6AEwC3oECAQQAQ#v=onepage&q=caudet%20de%20baur%20knochen&f=false>

Joke om eget skelet: Consumers and Luxury: Consumer Culture in Europe 1650-1850 - side 175

https://books.google.dk/books?id=7n27AAAAIAAJ&pg=PA175&lpg=PA175&dq=when+I+have+remained+some+years+as+a+skeleton+caudet+de+vaux&source=bl&ots=rZpV-iAXII&sig=ACfU3U2Mf64B4PY4tYqr6QMdVHu4ii0Dtg&hl=en&sa=X&ved=2ahUKEwjZtt_6vMznAhVC6qQKHf3CB5MQ6AEwAHoECAkQAQ#v=onepage&q=when%20I%20have%20remained%20some%20years%20as%20a%20skeleton%20caudet%20de%20vaux&f=false

BENJAMIN THOMSON, alias grev Rumford (1753-1814).

<https://de.wikipedia.org/wiki/Rumfordsuppe>

Supper til bespisning af fattige og fanger i 1800-tallet. Knud Waaben: Den Rumfordske suppe.

<https://bibliotek.dk/da/work/870971-tsart:82759204>

Professor Wendt skrev i 1828 en afhandling på godt 100 sider. En hel lille kultur- og ernæringshistorisk gennemgang af bensuppernes historie - især behandles den Rumfordske suppes historie i udlandet og i Danmark.

<https://books.google.dk/books?id=Ft0wS8z37T8C&printsec=frontcover&hl=da#v=onepage&q&f=false>

CARL GOTTLOB RAFN (1769-1808) og ERIK NISSEN VIBORG (1759-1822)

Rafns bog: Suppe og Gelée af Been, en Gave for den huuslige Oeconomie, samt nye Efterretninger om Brugen af det ypperlige Hestekjød

https://soeg.kb.dk/discovery/fulldisplay?context=L&vid=45KBDK_KGL:KGL&search_scope=MyInst_and_CI&tab=Everything&docid=alma99122848780605763&lang=da

Biografi om professor Erik Viborg af Hj. Friis: Erik Viborg i Dansk Biografisk Leksikon, 3. udg., Gyldendal 1979-84. Hentet 21. december 2019 fra <http://denstoredanske.dk/index.php?sideId=298995>

I tysk tobindsoversigt fra 1811 over velgørende institutioner i Augsburg er der i bind 2, side 746 en stor fodnote med omtale af professor Wiborgs og ass.

Rafns beregninger over, hvor meget man kunne vinde i den nationale husholdning ved at koge suppe på ben. Link i Googles digitalisering:

<https://books.google.dk/books?id=zUVrXDpQZcgC&pg=PA746&lpg=PA746&dq=wiborg+kastellet&source=bl&ots=2mK43fj8Pa&sig=ACfU3U0GkdoyYyKsu5C2HbXpnt0Yc1Jxmw&hl=da&sa=X&ved=2ahUKEwisoOf-2NbmAhXUnVwKHff2BwEQ6AEwFXoECCIQAQ#v=onepage&q=wiborg%20kastellet&f=false>

http://www2.statsbiblioteket.dk/mediestream/avis/record/doms_avis_page%3Aauuid%3A5a777212-dcaa-4939-9985-1e6a05e4b5c7

HEINRICH CALLISEN (1740-1824) (ikke anvendt i Collagen-bogen, men relevant)

<https://www.kobenhavnshistorie.dk/index.php/e-boger/24-bog/pmbok/160-indholdsoversigt-h-callisen-fysisk-medizinske-betragtninger-over-ki-benhavn>

https://da.wikipedia.org/wiki/Henrich_Callisen

JØRGEN HENRICH RAWERT (1751-1823)

https://soeg.kb.dk/discovery/fulldisplay?docid=alma99122848939205763&context=L&vid=45KBDK_KGL:KGL&lang=da&search_scope=MyInst_and_CI&adapter=Local%20Search%20Engine&tab=Everything&query=creator,contains,Rawert,AND&query=title,contains,Knokler,AND&mode=advanced&offset=0

https://da.wikipedia.org/wiki/J.H._Rawert

Danmark fjerdestørste eksportør af biprodukter til Kina
Interview Landbrug & Fødevarer

Biprodukter:

Exploration of collagen recovered from animal by-products as a precursor of bioactive peptides: Successes and challenges. Critical Reviews in Food Science and Nutrition, Volume 59, 2019, issue 13

Yu Fu, Margrethe Therkildsen, Rotimi E. Aluko & René Lametsch

<https://www.tandfonline.com/doi/abs/10.1080/10408398.2018.1436038>

COLLAGEN-TIDSLINJE

400.000 f.Kr.: Knogle-gemmeleg til magre tider

- Ancient humans planned ahead and stored bones to eat the marrow later
<https://www.newscientist.com/article/2219435-ancient-humans-planned-ahead-and-stored-bones-to-eat-the-marrow-later/>

- Bone marrow storage and delayed consumption at Middle Pleistocene Qesem Cave, Israel (420 to 200 ka)

<https://advances.sciencemag.org/content/5/10/eaav9822>

- Study finds prehistoric humans ate bone marrow like canned soup 400,000 years ago

<https://popular-archaeology.com/article/study-finds-prehistoric-humans-ate-bone-marrow-like-canned-soup-400000-years-ago/>

- Ancient humans planned ahead and stored bones to eat the marrow later
<https://www.timesofisrael.com/archaeologists-discover-400000-year-old-paleo-snack-pack-in-israeli-cave/>

- Evidence for Meat-Eating by Early Humans

<https://www.nature.com/scitable/knowledge/library/evidence-for-meat-eating-by-early-humans-103874273/>

18.000 f.Kr.: Arkæologiske fund i Kina af vandtætte kogekar, som formentlig er blevet brugt til at koge suppe i.

Science 2012: Early pottery at 20,000 years ago in Xianrendong Cave, China
<https://science.sciencemag.org/content/336/6089/1696>

8300 f.Kr.: Collagen brugt som lim. Archaeology

<https://archive.archaeology.org/online/news/glue.html>

Ca. 3000 f.Kr.: Indiske ayurveda-læger ordinerer bl.a. supper og gryderetter

Foundation of Innovative Research, Sustainable Technology & Intellectual Property:

<http://firstip.org/legendary-scientists/acharya-charak-father-of-medicine-300bc>

- Meat Use In Ayurveda: This Holistic Science Is Not Vegetarian Or Vegan
<https://www.theayurvedaexperience.com/blog/meat-ayurveda-vegetarian-vegan/>

- Ayurvedic Concept of Food and Nutrition. Journal of Nutrition & Food Sciences 2016

<https://www.longdom.org/open-access/ayurvedic-concept-of-food-and-nutrition-2155-9600-1000530.pdf>

Ca. 2570 f.Kr.: Gelatinemad i Giza-området i Ægypten.

- Let Them Eat Soup

<https://www.archaeology.org/issues/317-1811/trenches/7056-trenches-egypt-giza-livestock-bones>

- Ancient Egyptian Cuisine

https://en.wikipedia.org/wiki/Ancient_Egyptian_cuisine#cite_note-autogenerated211-12

1500-1000 f.Kr.: Lim i Ægypten og forfængelige, vegetariske ægyptere

https://en.wikipedia.org/wiki/Animal_glue

Ca. 480-370 f.Kr.: Hippokrates (460-370 f.Kr) ordinerer suppe mod en række sygdomme.

- Totelin. Journal of Ethnopharmacology 2015

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4469375/>

- Yapijakis C. Hippocrates of Kos, the father of clinical medicine, and Asclepiades of Bithynia, the father of molecular medicine. Review.

<https://www.ncbi.nlm.nih.gov/pubmed/19567383>

- I den græske krigerbystat Sparta kogte man en helt speciel sort suppe på svineben

https://en.wikipedia.org/wiki/Black_soup

221 f.Kr.-220 e.Kr.

Æselskindstonic - se senere kildeliste om æsler

200 f. kr.: Kinesere kogte bouillon

- BBC: Chinese archaeologists unearth 2,400-year-old 'soup'

<https://www.bbc.com/news/world-asia-pacific-11981666>

- <https://museum-of-artifacts.blogspot.com/2015/10/chinese-2400-year-old-pot-of-soup-found.html>

- Can chicken soup really cure body and soul?

<https://theconversation.com/can-chicken-soup-really-cure-body-and-soul-52357>

- Encyclopedia of Jewish Food

https://books.google.dk/books?id=gFK_yx7Ps7cC&pg=PT418&lpg=PT418&dq=Huangdi+Neijing+chicken+soup&source=bl&ots=b_Bp3EyX5g&sig=ACfU3U2N7Nx0qAr8q272jBBYt2x1ClJPng&hl=en&sa=X&ved=2ahUKEwjI96Tzv9rmAhXF

zKQKHvYBW0Q6AEwCXoECAgQAQ#v=onepage&q=Huangdi%20Neijing%20c
hicken%20soup&f=false

2. århundrede før vor tidsregning: Første nedskrevne tekst om hønsekødsuppe og dens helende virkninger findes i Huang Di Nei Jing, en bog om kinesisk folkemedicin. Det fremgår, at suppen var såkaldt yang-mad, dvs. varmende mad, og også kunne bruges til at opløse medicinske urter i, så den kunne skræddersys som behandling af mange sygdomme.

Ca. 1155: Hildegard von Bingen's Physica: The Complete English Translation of Her Classic Work on Health and Healing.

<https://books.google.dk/books?id=plwoDwAAQBAJ&pg=PT246&lpg=PT246&dq=hildegard+von+bingen+joints+ox+feet&source=bl&ots=8j1rrNP9Zj&sig=ACfU3U18SDs1OcrjRj5rh6Naf7WnDkomww&hl=en&sa=X&ved=2ahUKEwi80cmr3-TmAhXPQ0EAHc6EBugQ6AEwAXoECAkQAQ#v=onepage&q=hildegard%20von%20bingen%20joints%20ox%20feet&f=false>

- Nourishing Broth: An Old-Fashioned Remedy for the Modern World. Sally Fallon Morell, Kaayla T. Daniel

Sidst i 1100-tallet: Maimonides

Moses Maimonides on the Causes of Symptoms. British Medical Journal 1975.

<https://www.bmj.com/content/3/5978/314.1>

1400-tallet: Ældste opskrifter på "jellies" - gelatinebaserede retter, kogt på griseører, græsetæer eller ål.

<https://www.history.com/news/jiggle-it-the-history-of-gelatins-aspics-and-jellies>

Mexicanske kannibaler. National Geographic

<https://www.nationalgeographic.com/news/2011/11/110930-cannibalism-cannibals-mexico-xiximes-human-bones-science/>

1682: Den franske matematiker Denis Papin opfinder en maskine, en forløber for trykkogeren, der effektivt trækker gelatine ud af dyreknoget.
(se Papin-kilder ovenfor i pioner-afsnittet)

17. århundrede: Den engelske madskribent Anne Blencowe (1656-1718) omtaler i sin kogebog "Receipts" en teknik til at koge kød ned til en klæbrig substans, der kunne bruges som en forløber for bouillonterninger.

https://en.wikipedia.org/wiki/Anne_Blencowe

https://en.wikipedia.org/wiki/Bouillon_cube#cite_note-2

1735: Bouillonterninger almindelig kendt

https://en.wikipedia.org/wiki/Bouillon_cube#cite_note-2

<https://samvirke.dk/artikler/10-ting-du-maaske-ikke-vidste-om-bouillon>

1788: I følge fransk lov får soldater ret til to måltider med suppe hver dag, kogt på kød/knoget. I praksis havde hæren dog for lidt kød til det, så de fleste fik én gang kødsuppe og en gang grøntsagssuppe med spæk.

https://books.google.dk/books?id=F0NoAgAAQBAJ&pg=PA17&lpg=PA17&dq=La+soupe+fait+le+soldat+napoleon&source=bl&ots=sOrhHFwQ_k&sig=ACfU3U0bl9NjJQXc4hc0A4dISZIQLMMt7g&hl=en&sa=X&ved=2ahUKEwj8zaGs_9XmA hXjmFwKHZXiBB0Q6AEwBXoECAoQAQ#v=onepage&q=La%20soupe%20fait%20le%20soldat%20napoleon&f=false

1793: Studier af hunde, der gnasker kødben, inspirerer den franske apoteker, kemiprofessor og iværksætter Cadet de Vaux til at lovprise knogleudvundet gelatine.

Mémoire sur la gelatine des os et son application à l'économie alimentaire, privée et publique, et principalement à l'économie de l'homme malade et indigent. Antoine-Alexis Cadet-de-Vaux. 1793

https://books.google.dk/books/about/M%C3%A9moire_sur_la_gelatine_des_os_et_son_a.html?id=ssQPAAAAQAAJ&redir_esc=y

1800: Det første franske suppekøkken uddeler 300 supper om dagen til fattige.

Une historie politique de l'alimentation: Di paléolithique à nos jours (Paul Anés)

<https://books.google.dk/books?id=9vvgDAAAQBAJ&pg=PT320&dq=de+la+gelatine+des+os+et+de+son+bouillon+published&hl=en&sa=X&ved=0ahUKEwjzda-5-TmA hUjIMUKHcZpCS0Q6AEILDAA#v=onepage&q&f=false>

1808: Jamaicanske slaver beordres til selv at sørge for deres mad. Det gør de bl.a. ved at tigge knoglerester hos deres herrer for at støde dem i småstykker og koge suppe på dem, i følge Rafn (se ovenfor). I følge 25. bind af encyclopædien opsamlede slaverne på Jamaica benene fra deres herres døre, stødte dem så fint som muligt og kogte dem med vand til en god suppe. Det var slavernes eget ansvar at få mad nok.

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<https://repository.upenn.edu/cgi/viewcontent.cgi?article=2823&context=edissertations>

- Congotay! Congotay! A Global History of Caribbean Food

https://books.google.dk/books?id=XmTfBQAAQBAJ&pg=PA70&lpg=PA70&dq=slaves+jamaica+bones+soup&source=bl&ots=Pm_1AkYLzt&sig=ACfU3U2THvtdi1KkbC5cjTdnX1A_jY6Xg&hl=en&sa=X&ved=2ahUKEwigpJ6Z0dfmAhVIbIAKHX69Di0Q6AEwAHoECAyQAQ#v=onepage&q=slaves%20jamaica%20bones%20soup&f=false

1818: Første industrifremstillede gelatine.

Gelatine Handbook: Theory and Industrial Practice

<https://books.google.dk/books?id=QJHdXZLvF7cC&pg=PA3&lpg=PA3&dq=1818+first+gelatine&source=bl&ots=QPg16A8wLP&sig=ACfU3U0WxwoPKzfwWiWECyfc9ckm50yXVEQ&hl=en&sa=X&ved=2ahUKEwjDg8OI5djnAhVSKewKHQYVANcQ6AEwCnoECAyQAQ#v=onepage&q=1818%20first%20gelatine&f=false>

1845: Peter Cooper, amerikansk forretningsmand, tager patent på pulveriseret gelatine.

<https://lemelson.mit.edu/resources/peter-cooper>

<https://www.nytimes.com/2010/06/27/nyregion/27FYI.html>

https://en.wikipedia.org/wiki/Peter_Cooper

1853: Koleraepidemi i København

Gerda Bonderup: Kolera i 1800-tallet - med særlig henblik på Danmark

<https://www.google.com/search?q=kolera+k%C3%B8benhavn+suppe&oq=kolera+k%C3%B8benhavn+suppe&aqs=chrome..69i57j33.6632j0j4&sourceid=chrome&ie=UTF-8>

1871: Gelatine benyttes i andre industrier, bl.a. som lysfølsomt materiale i fotoindustrien.

https://en.wikipedia.org/wiki/Photographic_film

1903: Franske køkkenchef George Auguste Escoffier udgiver bogen "Le Guide Culinaire"

1908: Første Maggi-terning ser dagens lys.

<https://en.wikipedia.org/wiki/Maggi>

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<https://www.iucr.org/people/crystallographers/g.-n.-ramachandran>

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<https://www.gelatine.org/gelatine/history.html>

1950: Klinisk studie finder, at gelatine får hvide pletter på neglene til at forsvinde på 13 uger.

Tyson TL, The effect of gelatin on fragile finger nails. J Invest Dermatol 14:323-325 (1950).

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<https://www.gelatine.org/collagen-peptides/history.html>

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