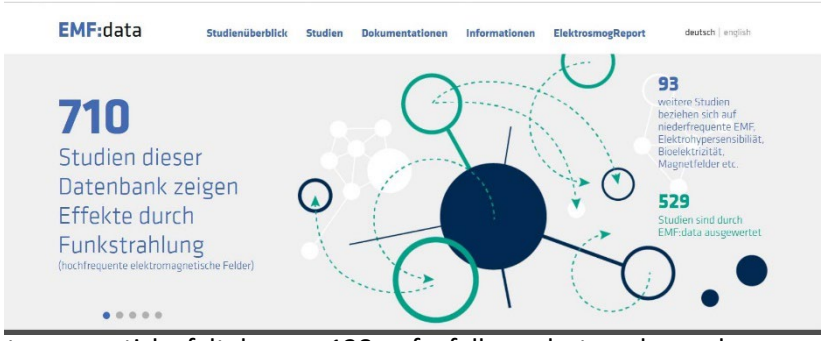
Systematiske oversiktsstudier av elektromagnetiske felt (EMF) og virkninger på helse og biologi

Databaseutdrag per februar 2025

Oversatt til norsk av Einar Flydal, februar 2025, etter tillatelse fra Diagnose:funk.
Denne oversikten kan lastes ned fra http://einarflydal.com.

Diagnose:funks database (tysk og engelsk): https://www.emfdata.org/en/start

"En systematisk oversiktsstudie er en vitenskapelig artikkel i form av en litteratur-gjennomgang som forsøker å samle, oppsummere og kritisk vurdere all tilgjengelig kunnskap om et spesifikt tema ved hjelp av passende metoder. Grunnlaget for hver slik gjennomgang er den faglitteraturen som allerede er publisert ... Gjennomganger kan suppleres med en [kvantitativ] meta-analyse når det fins kvantitative data ... Systematiske oversikter har høyest bevisverdi av alle slags vitenskapelige arbeider, ettersom forfatterne ikke har noen personlig tilknytning til originalartiklene (interessekonflikt)." (fra tysk Wikipedia)



Denne oversikten omfatter totalt 139 gjennomganger om virkningene fra høyfrekvente elektromagnetiske felt, hvorav 128 er fagfellevurdert og dermed bekreftet av anerkjente forskere på området som kunnskapsstatus.

34 av dem tar for seg biologiske virkninger og virkninger på helse (s. 2-7), 25 for seg virkninger på kreftvekst og svulstdannelse (s. 8-12), 21 for seg virkninger på reproduksjon og sædceller (s. 13-16), 18 for seg virkningsmekanismen (s. 17-20), 11 for seg el-overfølsomhet (s. 21-22), 6 tar for seg celleskader (s. 23), 8 tar for seg virkninger på dyr og natur (s. 24-25), 5 tar for seg virkningene på insekter (s. 26), og ytterligere 7 tar for seg diverse sider ved høyfrekvente elektromagnetiske felt (s. 27-.28), og 4 omhandler blod-hjerne-barrieren (s. 29).

Tyske oversettelser av artikkeltitler er fjernet. Tyske originaltitler er oversatt til norsk.

Diagnose:funk [Diagnose:trådløst] er en tysk forskningsbasert opplysningsorganisasjon. https://www.diagnose-funk.org

A) Virkninger på helse og biologiske virkninger

Balmori, Alfonso	2022	Evidence for a health risk by RF on humans living around mobile phone base stations: From radiofrequency sickness to cancer	Environ Res 2022 Jul 14;214(Pt 2):113851. doi: 10.1016/j.envres.2022.113851. https://www.sciencedirect.com/science/article/abs/pii/S0013935122011781?via%3Dihub https://www.emf-portal.org/de/article/47918 https://www.emfdata.org/de/studien/detail&id=645
Belpoggi F, STOA	2021	Health impact of 5G. Current state of knowledge of 5G-related carcinogenic and reproductive/developmental hazards as they emerge from epidemiological studies and in vivo experimental studies**.**	https://www.europarl.europa.eu/stoa/en690012/document/EPRS_STU(2021) https://www.diagnose-funk.org/1740 Die Studie befasst sich mit 2 Endpunkten: Krebs und Fruchtbarkeit.
Belpomme D, Hardell L, Belyaev I, Burgio E, Carpenter DO	2018	Thermal and non-thermal health effects of low intensity non-ionizing radiation: An international perspective.	Environmental Pollution 242 (2018) 643-658 https://doi.org/10.1016/j.envpol.2018.07.019 https://www.sciencedirect.com/science/article/abs/pii/S0269749118310157?via%3Dihub https://www.emfdata.org/de/studien/detail?id=531 https://www.emf-portal.org/de/article/35522
Belyaev IY	2005	Non-thermal Biological Effects of Microwaves.	*Electromagn Biol Med 24: 375–403, 2005* und Microwave Review 11 (2), 13-29 https://doi.org/10.1080/15368370500381844 https://www.tandfonline.com/doi/full/10.1080/15368370500381844 https://www.emfdata.org/de/studien/detail?id=575 https://www.emf-portal.org/de/article/13459
BioIntitiative-Working Group	2012 (update 2014 bis 2020)	Den mest omfattende dokumentasjon av studiesituasjonen, utarbeidet av et internasjonalt team på 29 ledende eksperter: The BioInitiative Report 2012: A Rationale for Biologically-based Public Exposure Standards for Electromagnetic Fields (ELF and RF)	BioInitiative Report 2012, Section 1-28: 1-1479* https://bioinitiative.org/ https://www.emfdata.org/de/studien/detail&id=536 https://www.emf-portal.org/de/article/21837

Di Ciaula A	2018	Towards 5G communication systems: are there health implications?	Int J Hyg Environ Health 2018; 221 (3): 367-375 https://doi.org/10.1016/j.ijheh.2018.01.011 https://www.sciencedirect.com/science/article/abs/pii/S1438463917308143?via%3Dihub https://www.emfdata.org/de/studien/detail?id=521 https://www.emf-portal.org/de/article/34534
Farashi S, Bashirian S, Khazaei S, Khazaei M, Farhadinasab A	2024	Mobile phone electromagnetic radiation and the risk of headache: a systematic review and meta-analysis.	International Archives of Occupational and Environmental Health. 2022 Sep;95(7):1587-601. https://doi.org/10.1007/s00420-022-01835-x https://www.emfdata.org/de/studien/detail&id=872
Gangi S, Johansson, O.	1997	Skin changes in "screen dermatitis" versus classical UV- and ionizing irradiation-related damage -- similarities and differences.	Exp Dermatol 1997; 6 (6): 283-291 https://doi.org/10.1111/j.1600-0625.1997.tb00174.x https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1600-0625.1997.tb00174.x https://www.emfdata.org/de/studien/detail&id=466 https://www.emf-portal.org/de/article/4179
Grigoriev Y	2012	Evidence for Effects on the Immune System Supplement 2012 Immune System and EMF RF (Russian National Committee on Non-Ionizing Radiation Protection Moscow, Russia; S. 20)	Bioinitiative Report 2012, Section 8 * https://bioinitiative.org/wp-content/uploads/pdfs/sec08_2012_Evidence_%20Effects_%20Immune_System.pdf
He Z, Qiu F, Yang J, Zhao M	2024	The role of digital device use on the risk of migraine: a univariable and multivariable Mendelian randomization study.	Frontiers in Neurology. 2024 Oct 30;15:1462414. https://doi.org/10.3389/fneur.2024.1462414 https://www.emfdata.org/de/studien/detail&id=871

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Hensinger P	2018	Risiko Mobilfunk - Blick in die Forschung: Gesundheitsschäden durch WLAN- und Mobilfunkstrahlung. Risiko fra mobilkommunikasjon - En titt på forskningen: Helseskader forårsaket av WLAN [wifi] og mobiltelefonstråling [tysk originaltittel].	DHZ – Deutsche Heilpraktiker Zeitschrift, 2018; 8: 14–19* https://doi.org/10.1055/a-0729-3561 https://www.thieme-connect.de/products/ejournals/abstract/10.1055/a-0729-3561 https://www.emfdata.org/de/studien/detail?id=511
Hensinger P, Wilke I	2016	Mobile radio: New study results confirm risks of non-ionizing radiation.	Umwelt-Medizin-Gesellschaft 29 (3): 15-25 * https://www.emfdata.org/de/dokumentationen/detail?id=104 https://www.emf-portal.org/de/article/30469 https://www.emfdata.org/de/studien/detail?id=577
Hinrikus, H., Koppel, T., Lass, J., Orru, H., Roosipuu, P., & Bachmann, M.	2022	Possible health effects on the human brain by various generations of mobile telecommunication: a review based estimation of 5G impact.	International Journal of Radiation Biology, 1-12*;* DOI: 10.1080/09553002.2022.2026516
Hu C, Zuo H, Li Y	2021	Effects of Radiofrequency Electromagnetic Radiation on Neurotransmitters in the Brain	Front Public Heal. 2021;9(August):1-15; DOI: 10.3389/fpubh.2021.691880
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Saliev T, Begimbetova D, Masoud AR, Matkarimov B	2019	Biological effects of non-ionizing electromagnetic fields: Two sides of a coin	Progress in Biophysics and Molecular Biology, 141: 25-36 https://doi.org/10.1016/j.pbiomolbio.2018.07.00 https://www.sciencedirect.com/science/article/pii/S0079610718301007?via%3Dihub https://www.emf-portal.org/en/article/35544 9 https://www.emfdata.org/de/studien/detail&id=579
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Vornoli A, Falcioni L, Mandrioli D, Bua L, Belpoggi F	2019	The Contribution of In Vivo Mammalian Studies to the Knowledge of Adverse Effects of Radiofrequency Radiation on Human Health.	Int. J. Environ. Res. Public Health 16, 3379 https://doi.org/10.3390/ijerph16183379 https://www.researchgate.net/publication/335784532_The_Contribution_of_In_Vivo_Mammalian_Studies_to_the_Knowledge_of_Adverse_Effects_of_Radiofrequency_Radiation_on_Human_Health https://www.emfdata.org/de/studien/detail?id=548 https://www.emf-portal.org/de/article/39607
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B) Virkninger på kreftvekst og svulstdannelse

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Bortkiewicz A, Gadzicka E, Szymczak W	2017	Mobile Phone Use and Risk for Intracranial Tumors and Salivary Gland Tumors – A Meta-Analysis.	Int J Occup Med Environ Health 2017: 30 (1): 27-43 https://doi.org/10.13075/ijomeh.1896.00802 http://ijomeh.eu/ERRATUM-TO-BORTKIEWICZ-ET-AL-r-n-MOBILE-PHONE-USE-r-nAND-RISK-FOR-INTRACRANIAL-TUMORS-r-nAND-SALIVARY-GLAND-TUMORS-r-nA-META-ANALYSIS-IJOMEH-2017-30-1-27-43-,73816,0,2.html https://www.emfdata.org/de/studien/detail?id=503 https://www.emf-portal.org/de/article/31361
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Choi Y J, Moskowitz J M, Myung S-K, Lee Y-R, Hong, YC	2020	Cellular Phone Use and Risk of Tumors: Systematic Review and Meta-Analysis	International Journal of Environmental Research and Public Health, 2020, 17, 8079 https://doi.org/10.3390/ijerph17218079https://www.mdpi.com/1660-4601/17/21/8079 https://www.emf-portal.org/de/article/43624 https://www.emfdata.org/de/studien/detail&id=581

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Hardell L, Carlberg M, Hansson Mild K	2013	Use of mobile phones and cordless phones is associated with increased risk for glioma and acoustic neuroma.	Pathophysiology; 20 (2): 85-110 https://doi.org/10.1016/j.pathophys.2012.11.001 https://www.sciencedirect.com/science/article/abs/pii/S0928468012001101?via%3Dihub https://www.emfdata.org/de/studien/detail?id=541 https://www.emf-portal.org/de/article/21575

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Lai H	2020	Genetic effects of non-ionizing electromagnetic fields.	Electromagn Biol Med 2021 https://doi.org/10.1080/15368378.2021.1881866 https://www.tandfonline.com/doi/abs/10.1080/15368378.2021.1881866 https://www.emfdata.org/de/studien/detail&id=574 https://www.emf-portal.org/de/article/44159
Levis AG, Minicuci N, Ricci P, Gennaro V, Garbisa S	2011	Mobile phones and head tumours. The discrepancies in cause-effect relationships in the epidemiological studies - how do they arise?	Environ Health 2011; 10 : 59 https://doi.org/10.1186/1476-069X-10-59 https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-10-59 https://www.emfdata.org/de/studien/detail?id=327 https://www.emf-portal.org/de/article/19363
Moon J, Kwon J, Mun Y	2024	Relationship between radiofrequency-electromagnetic radiation from cellular phones and brain tumor: meta-analyses using various proxies for RF-EMR exposure-outcome assessment	Environ Health 2024; 23: 82 https://doi.org/10.1186/s12940-024-01117-8 https://www.emfdata.org/de/studien/detail&id=866 https://www.emf-portal.org/de/article/56424

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Sammenstillingen gjort av diagnose:funk, www.diagnose-funk.org, www.emfdata.org, per 07.02.2025 og oppdateres jevnlig.