

# Cluster Oog

<sup>10</sup> Bijlagen bij Concept richtlijnmodules cyclus 1

## **Inhoudsopgave**

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## **Bijlagen bij module kinderen met visuele beperkingen**

Geen bijlagen

## Bijlagen bij module visuele beperkingen bij NAH

### Zoekverantwoording

#### Algemene informatie

Cluster/richtlijn: Cluster Oog - UV2 Visuele beperkingen NAH – Versie 3	
Uitgangsvraag/modules: Welke factoren moeten worden besproken tijdens de anamnese, en welke onderzoeken moeten minimaal worden gedaan om vast te kunnen stellen of een patiënt met visuele beperkingen na NAH baat zou kunnen hebben bij in verwijzing voor revalidatie?	
Database(s): Embase.com, Ovid/Medline	Datum: 29 oktober 2024
Periode: vanaf 2014	Talen: geen restrictie
Literatuurspecialist: Esther van der Bijl	Rayyan: <a href="https://new.rayyan.ai/reviews/1208607/overview">https://new.rayyan.ai/reviews/1208607/overview</a>
BMI-zoekblokken: voor verschillende opdrachten wordt (deels) gebruik gemaakt van de zoekblokken van BMI-Online <a href="https://blocks.bmi-online.nl/">https://blocks.bmi-online.nl/</a> Bij gebruikmaking van een volledig zoekblok zal naar de betreffende link op de website worden verwezen.	
<b>Toelichting:</b> Voor deze vraag is gezocht op de elementen <b>niet aangeboren hersenletsel</b> EN <b>visuele klachten</b> .	
→ De volgende sleutelartikelen worden gevonden met deze search:	
<ul style="list-style-type: none"><li>• Johnson R. Disorders of higher visual processing in patients with acquired brain injury. NeuroRehabilitation. 2022;50(3):331-341. doi: 10.3233/NRE-228016. PMID: 35342058.<a href="https://pubmed.ncbi.nlm.nih.gov/35342058/">https://pubmed.ncbi.nlm.nih.gov/35342058/</a></li><li>• Dubé C, Jin Y, Powers BG, Li G, Labelle A, Rivers MS, Gumboc IM, Bussières AE. Vision Evaluation Tools for Adults With Acquired Brain Injury: A Scoping Review. Can J Occup Ther. 2021 Dec;88(4):340-351. doi: 10.1177/00084174211042955. Epub 2021 Oct 18. PMID: 34658251; PMCID: PMC8640270. <a href="https://pubmed.ncbi.nlm.nih.gov/34658251/">https://pubmed.ncbi.nlm.nih.gov/34658251/</a></li></ul>	
→ De volgende sleutelartikelen vallen uit:	
<ul style="list-style-type: none"><li>• Rauchman SH, Zubair A, Jacob B, Rauchman D, Pinkhasov A, Placantonakis DG, Reiss AB. Traumatic brain injury: Mechanisms, manifestations, and visual sequelae. Front Neurosci. 2023 Feb 23;17:1090672. doi: 10.3389/fnins.2023.1090672. PMID: 36908792; PMCID: PMC9995859. <a href="#">Valt uit op studiedesign</a></li><li>• Berthold-Lindstedt M, Ygge J, Borg K. Visual dysfunction is underestimated in patients with acquired brain injury. J Rehabil Med. 2017 Apr 6;49(4):327-332. doi: 10.2340/16501977-2218. PMID: 28350414. <a href="#">Valt uit op studiedesign</a></li><li>• Berthold Lindstedt M, Johansson J, Ygge J, Borg K. Vision-related symptoms after acquired brain injury and the association with mental fatigue, anxiety and depression. J Rehabil Med. 2019 Jul 8;51(7):499-505. doi: 10.2340/16501977-2570. PMID: 31165172. <a href="#">Valt uit op studiedesign</a></li><li>• de Vries SM, Heutink J, Melis-Dankers BJM, Vrijling ACL, Cornelissen FW, Tucha O. Screening of visual perceptual disorders following acquired brain injury: A Delphi study. Appl Neuropsychol Adult. 2018 May-Jun;25(3):197-209. doi: 10.1080/23279095.2016.1275636. Epub 2017 Jan 18. PMID: 28098479. <a href="#">Valt uit op studiedesign</a></li><li>• Suchoff IB, Kapoor N, Waxman R, Ference W. The occurrence of ocular and visual dysfunctions in an acquired brain-injured patient sample. J Am Optom Assoc. 1999 May;70(5):301-8. PMID: 10457707. <a href="#">Valt uit op datum</a></li><li>• Calvano R, Williams R, Burke DT, Mello J, Lepak P, Al-Adawi S, Shah MK. Acquired brain injury, visual attention, and the useful field of view test: A pilot study. Arch Phys Med Rehabil. 2004 Mar;85(3):474-8. doi: 10.1016/s0003-9993(03)00469-6. PMID: 15031836. <a href="https://pubmed.ncbi.nlm.nih.gov/15031836/">https://pubmed.ncbi.nlm.nih.gov/15031836/</a> <a href="#">Valt uit op datum</a></li><li>• Schaad A-K &amp; Reinhart Stefan &amp; Marquardt Christian &amp; Kerkhoff Georg. (2016). A new diagnostic tool for the assessment of visual object recognition deficits after acquired brain damage. 22. 121-126. <a href="https://www.researchgate.net/publication/305157086_A_new_diagnostic_tool_for_the_assessment_of_visual_object_recognition_deficits_after_acquired_brain_damage">https://www.researchgate.net/publication/305157086_A_new_diagnostic_tool_for_the_assessment_of_visual_object_recognition_deficits_after_acquired_brain_damage</a> <a href="#">Geen SR</a></li><li>• Costa A, Bivona U, Sulpizio V, Nappo R, Mastrilli L, Formisano R, Aloisi M, Contrada M, Caltagirone C, Galati G. Reduced Priming Effect for Visual-Spatial Perspective Taking in Patients With Severe Acquired Brain Injury. Arch Clin Neuropsychol. 2022 Feb 23;37(2):227-239. doi: 10.1093/arclin/acab069. PMID: 34423813. <a href="#">Geen SR</a></li><li>• Ambika S, Atiya A, Ravi A, Mani R, Bhattacharya B, Praveen S, Hussaindeen JR. Visual profile of acquired brain injury in Indian cohort: a retrospective study. Brain Inj. 2020 Jul 28;34(9):1168-1174. doi: 10.1080/02699052.2020.1792985. Epub 2020 Jul 20. PMID: 32687723. <a href="https://pubmed.ncbi.nlm.nih.gov/32687723/">https://pubmed.ncbi.nlm.nih.gov/32687723/</a> <a href="#">Geen SR</a></li><li>• Berthold-Lindstedt M, Johansson J, Ygge J, Borg K. How to assess visual function in acquired brain injury-Asking is not enough. Brain Behav. 2021 Feb;11(2):e01958. doi: 10.1002/brb3.1958. Epub 2020 Nov 23. PMID: 33230981; PMCID: PMC7882154. <a href="https://pubmed.ncbi.nlm.nih.gov/33230981/">https://pubmed.ncbi.nlm.nih.gov/33230981/</a> <a href="#">Geen SR</a></li></ul>	

**Te gebruiken voor richtlijntekst:**

In de databases Embase.com en Ovid/Medline is op 29 oktober 2024 systematisch gezocht naar systematische reviews over het vaststellen van visuele beperkingen bij niet aangeboren hersenletsel. De literatuurzoekactie leverde 1289 unieke treffers op.

**Zoekopbrengst 29 oktober 2024**

	EMBASE	OVID/MEDLINE	Ontdubbeld
SR	1101	734	1289*
RCT	1727	861	
Observationeel	6500	4401	

\*in Rayyan

5

**Zoekstrategie Embase.com 29 oktober 2024**

No.	Query	Results
#1	'brain disease'/de OR 'brain edema'/exp OR 'brain infection'/exp OR 'brain sclerosis'/exp OR 'brain toxicity'/exp OR 'encephalomalacia'/exp OR 'hydrocephalus'/exp OR 'hypertension encephalopathy'/exp OR 'leukoencephalopathy'/exp OR 'metabolic encephalopathy'/exp OR 'necrotizing encephalopathy'/exp OR 'intracranial hypertension'/exp OR 'organic brain syndrome'/exp OR 'organic psychosyndrome'/exp OR 'pseudobulbar palsy'/exp OR 'sepsis associated encephalopathy'/exp OR 'penetrating head injury'/de OR 'thalamus disease'/exp OR 'head injury'/de OR 'brain injury'/exp OR 'meningitis'/exp OR 'encephalitis'/exp OR 'brain hypoxia'/exp OR 'traumatic coma'/exp OR 'concussion'/de OR 'brain concussion'/exp OR 'brain tumor'/exp OR 'cerebrovascular disease'/exp OR 'meningeal inflammation':ti,ab,kw OR 'meningitis':ti,ab,kw OR 'cerebral hemorrhage':ti,ab,kw OR 'perimeningeal infections':ti,ab,kw OR 'brain inflammation':ti,ab,kw OR 'cerebritis':ti,ab,kw OR 'encephalitis':ti,ab,kw OR 'encephalitis':ti,ab,kw OR 'brain commotion':ti,ab,kw OR 'brain concussion':ti,ab,kw OR 'brain contusion':ti,ab,kw OR 'cerebral concussion':ti,ab,kw OR 'commotio cerebri':ti,ab,kw OR (((brain OR cerebr*) OR intracranial OR 'left hemisphere' OR 'right hemisphere' OR craniocerebr*) NEAR/3 (edema OR hernia OR infecti* OR scleros* OR toxic* OR injur* OR accident* OR anoxaemi* OR anoxemi* OR anoxi* OR hypoxi* OR asphyx* OR cancer* OR necros* OR neoplasm* OR carcinom* OR tumor* OR tumour* OR angiopath* OR 'vascular disease'* OR vasculopath* OR 'small vessel disease'* OR 'vascular disorder'* OR 'vascular disturbance'* OR 'vascular lesion'* OR 'vascular damage'* OR 'vascular syndrome'* OR cyst*)):ti,ab,kw OR (((injur* OR posttrauma* OR trauma*) NEAR/3 coma):ti,ab,kw) OR encephalomalacia:ti,ab,kw OR (((dialysis OR hemorrhag* OR hypertension OR metabol* OR necroti* OR 'sepsis associate*') NEAR/3 encephalopath*):ti,ab,kw) OR ((organic NEAR/3 ('brain syndrome' OR psychosyndrome)):ti,ab,kw) OR 'pseudobulbar palsy':ti,ab,kw OR ((thalam* NEAR/2 disease*):ti,ab,kw) OR leukoencephalopath*:ti,ab,kw OR binswanger:ti,ab,kw OR 'multiple sclerosis':ti,ab,kw OR 'parkinson*':ti,ab,kw OR 'acquired brain disease*':ti,ab,kw)	2420127
#2	'visual impairment'/exp/mj OR 'visual disorder'/mj OR 'color vision defect'/exp/mj OR 'diplopia'/exp/mj OR 'scotoma'/exp/mj OR 'photophobia'/exp/mj OR 'depth perception'/exp/mj OR 'perception disorder'/mj OR 'eye movement disorder'/exp/mj OR (((vision OR visual* OR hallucinogen OR optic* OR sight OR 'eye movement' OR perceptual OR 'ocular motility') NEAR/3 (disorder* OR disturbance* OR abnormal* OR blurr* OR defect* OR double OR distort* OR oscillat* OR oscilloptic OR hallucination* OR illusion* OR impair* OR loss* OR handicap* OR snow OR disparit* OR disagr* OR complaint*)):ti,ab,kw) OR (((color OR colour) NEAR/3 agnosia):ti,ab,kw) OR (((depth OR space OR spatial OR visio* OR visuospatial) NEAR/3 (discrimination OR perception* OR disparit* OR neglect*)):ti,ab,kw) OR 'scoterythrous vision':ti,ab,kw OR blindness:ti,ab,kw OR 'ambliopia':ti,ab,kw OR 'd?lopia':ti,ab,kw OR 'diplopia':ti,ab,kw OR 'polyopia':ti,ab,kw OR 'polyopsia':ti,ab,kw OR 'polyopia':ti,ab,kw OR 'metamorphops*':ti,ab,kw OR 'night myopia':ti,ab,kw OR 'nyct?lopia':ti,ab,kw OR 'photopsia':ti,ab,kw OR 'scotoma':ti,ab,kw OR 'fata morgana':ti,ab,kw OR 'hemianopsi*':ti,ab,kw OR amblyopia:ti,ab,kw OR 'aniseiconia':ti,ab,kw OR 'aniseikonia':ti,ab,kw OR 'charles bonnet*':ti,ab,kw OR 'achromatognosia':ti,ab,kw OR 'achromatopia':ti,ab,kw OR 'achromatopsia':ti,ab,kw OR dyschromasia:ti,ab,kw OR dyschromatopsia:ti,ab,kw OR 'hemeralopia':ti,ab,kw OR 'dismetrops*':ti,ab,kw OR 'nocturnal amblyopia':ti,ab,kw OR 'oscillopsi*':ti,ab,kw OR 'oscilloscopia':ti,ab,kw OR 'palinops*':ti,ab,kw OR 'palinoptic*':ti,ab,kw OR 'visual perseveration*':ti,ab,kw OR stereoillusion:ti,ab,kw OR 'aeropsis':ti,ab,kw OR 'xanthopsia':ti,ab,kw OR 'visual attention':ti,ab,kw)	325123
#3	#1 AND #2	62354

#4	#3 AND [2014-2024]/py NOT ('conference abstract'/it OR 'editorial'/it OR 'letter'/it OR 'note'/it) NOT ('animal'/exp OR 'animal experiment'/exp OR 'animal model'/exp OR 'nonhuman'/exp) NOT 'human'/exp)	18433
#5	'meta analysis'/exp OR 'meta analysis (topic)'/exp OR metaanaly*:ti,ab OR 'meta analy*':ti,ab OR metanaly*:ti,ab OR 'systematic review'/de OR 'cochrane database of systematic reviews'/jt OR prisma:ti,ab OR prospero:ti,ab OR (((systemati* OR scoping OR umbrella OR 'structured literature') NEAR/3 (review* OR overview*)):ti,ab) OR (((systemic* NEAR/1 review*)):ti,ab) OR (((systemati* OR literature OR database* OR 'data base*') NEAR/10 search*):ti,ab) OR (((structured OR comprehensive* OR systemic*) NEAR/3 search*):ti,ab) OR (((literature NEAR/3 review*)):ti,ab) AND (search*:ti,ab OR database*:ti,ab OR 'data base*':ti,ab) OR ('data extraction':ti,ab OR 'data source*':ti,ab) AND 'study selection':ti,ab OR ('search strategy':ti,ab AND 'selection criteria':ti,ab) OR ('data source*':ti,ab AND 'data synthesis':ti,ab) OR medline:ab OR pubmed:ab OR embase:ab OR cochrane:ab OR (((critical OR rapid) NEAR/2 (review* OR overview* OR synthes*)):ti) OR (((critical* OR rapid*) NEAR/3 (review* OR overview* OR synthes*)):ab) AND (search*:ab OR database*:ab OR 'data base*':ab) OR metasynthes*:ti,ab OR 'meta synthe*':ti,ab	1073775
#6	'clinical trial'/exp OR 'randomization'/exp OR 'single blind procedure'/exp OR 'double blind procedure'/exp OR 'crossover procedure'/exp OR 'placebo'/exp OR 'prospective study'/exp OR rct:ab,ti OR random*:ab,ti OR 'single blind':ab,ti OR 'randomised controlled trial':ab,ti OR 'randomized controlled trial'/exp OR placebo*:ab,ti	4133204
#7	'major clinical study'/de OR 'clinical study'/de OR 'case control study'/de OR 'family study'/de OR 'longitudinal study'/de OR 'retrospective study'/de OR 'prospective study'/de OR 'comparative study'/de OR 'cohort analysis'/de OR ((cohort NEAR/1 (study OR studies)):ab,ti) OR ('case control' NEAR/1 (study OR studies)):ab,ti) OR ('follow up' NEAR/1 (study OR studies)):ab,ti) OR (observational NEAR/1 (study OR studies)) OR ((epidemiologic NEAR/1 (study OR studies)):ab,ti) OR ('cross sectional' NEAR/1 (study OR studies)):ab,ti)	8469025
#8	'case control study'/de OR 'comparative study'/exp OR 'control group'/de OR 'controlled study'/de OR 'controlled clinical trial'/de OR 'crossover procedure'/de OR 'double blind procedure'/de OR 'phase 2 clinical trial'/de OR 'phase 3 clinical trial'/de OR 'phase 4 clinical trial'/de OR 'pretest posttest design'/de OR 'pretest posttest control group design'/de OR 'quasi experimental study'/de OR 'single blind procedure'/de OR 'triple blind procedure'/de OR (((control OR controlled) NEAR/6 trial):ti,ab,kw) OR (((control OR controlled) NEAR/6 (study OR studies)):ti,ab,kw) OR (((control OR controlled) NEAR/1 active):ti,ab,kw) OR 'open label*':ti,ab,kw OR (((double OR two OR three OR multi OR trial) NEAR/1 (arm OR arms)):ti,ab,kw) OR ((allocat* NEAR/10 (arm OR arms)):ti,ab,kw) OR placebo*:ti,ab,kw OR 'sham-control*':ti,ab,kw OR (((single OR double OR triple OR assessor) NEAR/1 (blind* OR masked)):ti,ab,kw) OR nonrandom*:ti,ab,kw OR 'non-random*':ti,ab,kw OR 'quasi-experiment*':ti,ab,kw OR crossover:ti,ab,kw OR 'cross over':ti,ab,kw OR 'parallel group*':ti,ab,kw OR 'factorial trial':ti,ab,kw OR ((phase NEAR/5 (study OR trial)):ti,ab,kw) OR ((case* NEAR/6 (matched OR control*)):ti,ab,kw) OR ((match* NEAR/6 (pair OR pairs OR cohort* OR control* OR group* OR healthy OR age OR sex OR gender OR patient* OR subject* OR participant*)):ti,ab,kw) OR ((propensity NEAR/6 (scor* OR match*)):ti,ab,kw) OR versus:ti OR vs:ti OR compar*:ti OR ((compar* NEAR/1 study):ti,ab,kw) OR ('major clinical study'/de OR 'clinical study'/de OR 'cohort analysis'/de OR 'observational study'/de OR 'cross-sectional study'/de OR 'multicenter study'/de OR 'correlational study'/de OR 'follow up'/de OR cohort*:ti,ab,kw OR 'follow up':ti,ab,kw OR followup:ti,ab,kw OR longitudinal*:ti,ab,kw OR prospective*:ti,ab,kw OR retrospective*:ti,ab,kw OR observational*:ti,ab,kw OR 'cross sectional*':ti,ab,kw OR cross?ectional*:ti,ab,kw OR multicent*:ti,ab,kw OR 'multi-cent*':ti,ab,kw OR consecutive*:ti,ab,kw) AND (group:ti,ab,kw OR groups:ti,ab,kw OR subgroup*:ti,ab,kw OR versus:ti,ab,kw OR vs:ti,ab,kw OR compar*:ti,ab,kw OR 'odds ratio*':ab OR 'relative odds':ab OR 'risk ratio*':ab OR 'relative risk*':ab OR 'rate ratio':ab OR aor:ab OR arr:ab OR rrr:ab OR ((('or' OR 'rr') NEAR/6 ci):ab)))	15498387
#9	#4 AND #5 - SR	1101
#10	#4 AND #6 NOT #9 - RCT	1727
#11	#4 AND (#7 OR #8) NOT (#9 OR #10) - Observationeel	6500

#### Zoekstrategie Ovid/Medline 29 oktober 2024

#	Searches	Results
1	Brain Diseases/ or Brain Edema/ or Encephalocele/ or Brain Abscess/ or Multiple Sclerosis/ or exp Brain Injuries/ or exp Heat Stroke/ or exp Intracranial Hypertension/ or Brain Diseases, Metabolic/ or Sepsis-Associated Encephalopathy/ or Encephalomalacia/ or Leukoencephalopathies/ or exp Pseudobulbar Palsy/ or exp Craniocerebral Trauma/ or exp Meningitis/ or exp Hypoxia, Brain/ or exp Brain Neoplasms/ or exp Cerebrovascular Disorders/ or meningeal inflammation.ti,ab,kf. or meningitis.ti,ab,kf. or perimeningeal infections.ti,ab,kf. or brain inflammation.ti,ab,kf. or cerebritis.ti,ab,kf. or	1330679

	encephalitis.ti,ab,kf. or enkephalitis.ti,ab,kf. or brain commotion.ti,ab,kf. or brain concussion.ti,ab,kf. or brain contusion.ti,ab,kf. or cerebral concussion.ti,ab,kf. or commotio cerebri.ti,ab,kf. or ((brain or cerebr* or intracranial or left hemisphere or right hemisphere or craniocerebr*) adj3 (edema or hernia or infecti* or scleros* or toxic* or injur* or accident* or anoxaemi* or anoxemi* or anoxi* or hypoxi* or asphyx* or cancer* or necros* or neoplasm* or carcinom* or tumor* or tumour* or angiopath* or vascular disease* or vasculopath* or small vessel disease* or vascular disorder* or vascular disturbance* or vascular lesion* or vascular damage* or vascular syndrome* or cyst*).ti,ab,kf. or ((injur* or posttrauma* or trauma*) adj3 coma).ti,ab,kf. or encephalomalacia.ti,ab,kf. or heat stroke.ti,ab,kf. or ((dialysis or hemorrhag* or hypertension or metabol* or necroti* or sepsis associate*) adj3 encephalopath*).ti,ab,kf. or (organic adj3 (brain syndrome or psychosyndrome)).ti,ab,kf. or pseudobulbar palsy.ti,ab,kf. or (thalam* adj2 disease*).ti,ab,kf. or leukoencephalopath*.ti,ab,kf. or binswanger.ti,ab,kf. or multiple sclerosis.ti,ab,kf. or parkinson*.ti,ab,kf.	
2	exp Vision Disorders/ or exp Depth Perception/ or ((vision or visual* or hallucinogen or optic* or sight or eye movement or perceptual or ocular motility) adj3 (disorder* or disturbance* or abnormal* or blurr* or defect* or double or distort* or oscillat* or oscilloptic or hallucination* or illusion* or impair* or loss* or handicap* or snow or disparit* or disag* or complaint*).ti,ab,kf. or ((color or colour) adj3 agnosia).ti,ab,kf. or ((depth or space or spatial or visio* or visuospatial) adj3 (discrimination or perception* or disparit* or neglect*).ti,ab,kf. or Amblyopia.ti,ab,kf. or aniseiconia.ti,ab,kf. or aniseikonia.ti,ab,kf. or charles bonnet*.ti,ab,kf. or achromatognosia.ti,ab,kf. or achromatopia.ti,ab,kf. or achromatopsia.ti,ab,kf. or scoterythrous vision.ti,ab,kf. or blindness.ti,ab,kf. or dyschromasia.ti,ab,kf. or dyschromatopsia.ti,ab,kf. or hemeralopia.ti,ab,kf. or ambiopia.ti,ab,kf. or d?plopia.ti,ab,kf. or diplopy.ti,ab,kf. or polyopia.ti,ab,kf. or polyopsia.ti,ab,kf. or polyopy.ti,ab,kf. or dismetrops*.ti,ab,kf. or metamorphops*.ti,ab,kf. or night myopia.ti,ab,kf. or nocturnal amblyopia.ti,ab,kf. or nyct?lopia.ti,ab,kf. or oscillopsi*.ti,ab,kf. or oscilloscopia.ti,ab,kf. or palinops*.ti,ab,kf. or palinoptic*.ti,ab,kf. or visual perseveration*.ti,ab,kf. or photopsia.ti,ab,kf. or scotoma.ti,ab,kf. or fata morgana.ti,ab,kf. or stereoillusion.ti,ab,kf. or aeropsis.ti,ab,kf. or xanthopsia.ti,ab,kf. or hemianopsi*.ti,ab,kf.	228651
3	1 and 2	34898
4	limit 3 to yr="2014 -Current"	13941
5	4 not (comment/ or editorial/ or letter/) not ((exp animals/ or exp models, animal/) not humans/)	13113
6	meta-analysis/ or meta-analysis as topic/ or (metaanaly* or meta-analy* or metanaly*).ti,ab,kf. or systematic review/ or cochrane.jw. or (prisma or prospero).ti,ab,kf. or ((systemati* or scoping or umbrella or "structured literature") adj3 (review* or overview*).ti,ab,kf. or (systemic* adj1 review*).ti,ab,kf. or ((systemati* or literature or database* or data-base*) adj10 search*).ti,ab,kf. or ((structured or comprehensive* or systemic*) adj3 search*).ti,ab,kf. or ((literature adj3 review*) and (search* or database* or data-base*).ti,ab,kf. or ("data extraction" or "data source*") and "study selection").ti,ab,kf. or ("search strategy" and "selection criteria").ti,ab,kf. or ("data source*" and "data synthesis").ti,ab,kf. or (medline or pubmed or embase or cochrane).ab. or ((critical or rapid) adj2 (review* or overview* or synthes*).ti. or (((critical* or rapid*) adj3 (review* or overview* or synthes*)) and (search* or database* or data-base*).ab. or (metasynthes* or meta-synthes*).ti,ab,kf.	785602
7	exp clinical trial/ or randomized controlled trial/ or exp clinical trials as topic/ or randomized controlled trials as topic/ or Random Allocation/ or Double-Blind Method/ or Single-Blind Method/ or (clinical trial, phase i or clinical trial, phase ii or clinical trial, phase iii or clinical trial, phase iv or controlled clinical trial or randomized controlled trial or multicenter study or clinical trial).pt. or random*.ti,ab. or (clinic* adj trial*).tw. or ((singl* or doubl* or treb* or tripl*) adj (blind\$3 or mask\$3)).tw. or Placebos/ or placebo*.tw.	2798213
8	Epidemiologic studies/ or case control studies/ or exp cohort studies/ or Controlled Before-After Studies/ or Case control.tw. or cohort.tw. or Cohort analy\$.tw. or (Follow up adj (study or studies)).tw. or (observational adj (study or studies)).tw. or Longitudinal.tw. or Retrospective*.tw. or prospective*.tw. or consecutive*.tw. or Cross sectional.tw. or Cross-sectional studies/ or historically controlled study/ or interrupted time series analysis/ [Onder exp cohort studies vallen ook longitudinale, prospectieve en retrospectieve studies]	4867859
9	Case-control Studies/ or clinical trial, phase ii/ or clinical trial, phase iii/ or clinical trial, phase iv/ or comparative study/ or control groups/ or controlled before-after studies/ or controlled clinical trial/ or double-blind method/ or historically controlled study/ or matched-pair analysis/ or single-blind method/ or (((control or controlled) adj6 (study or studies or trial)) or (compar* adj (study or studies)) or ((control or controlled) adj1 active) or "open label*" or ((double or two or three or multi or trial) adj (arm or arms)) or (allocat* adj10 (arm or arms)) or placebo* or "sham-control*" or ((single or double or triple or assessor) adj1 (blind* or masked)) or nonrandom* or "non-random*" or "quasi-experiment*" or "parallel group*" or "factorial trial" or "pretest posttest" or (phase adj5 (study or trial)) or (case* adj6 (matched or control*)) or (match* adj6 (pair or pairs or cohort* or control* or group* or healthy or age or sex or gender or patient* or subject* or participant*)) or (propensity adj6 (scor* or match*))).ti,ab,kf. or	5822173

	(confounding adj6 adjust*).ti,ab. or (versus or vs or compar*).ti. or ((exp cohort studies/ or epidemiologic studies/ or multicenter study/ or observational study/ or seroepidemiologic studies/ or (cohort* or 'follow up' or followup or longitudinal* or prospective* or retrospective* or observational* or multicent* or 'multi-cent*' or consecutive*).ti,ab,kf.) and ((group or groups or subgroup* or versus or vs or compar*).ti,ab,kf. or ('odds ratio*' or 'relative odds' or 'risk ratio*' or 'relative risk*' or aor or arr or rrr).ab. or ("OR" or "RR") adj6 CI).ab.)	
10	5 and 6 - SR	734
11	(5 and 7) not 10 - RCT	861
12	(5 and (8 or 9)) not (10 or 11) - Observationeel	4401

## Bijlagen bij module Oogheelkundig en orthoptisch onderzoek CVI

### Evidence tables bij module oogheelkundig en orthoptisch onderzoek CVI

5

**Table 1: Overview of studies included in the analysis of literature.**

	<b>Population</b>	<b>Examination</b>	<b>Outcomes</b>	<b>Comments</b>
<b>Barsingerhorn (2018)</b>	Children with CVI; n = 17 Visually impaired children; n = 30 Normally sighted children; n = 94	Symbol discrimination speed	Symbol discrimination	• Case-control study
<b>Barsingerhorn (2019)</b>	Children with CVI; n = 15 Visually impaired children; n = 19 Normally sighted children; n = 88	TAC computerized preferential looking test and eyetracking	Preferential looking	• Case-control study
<b>Brock (2021)</b>	Children with Cyclin-dependent kinase-like 5 Deficiency Disorder (CDD); n = 48	Physical exam data (a.o. presence of dysconjugate gaze, roving eye movements, abnormal optokinetic nystagmus, response and impaired fixation and follow)	CVI severity score <i>Development of a novel CVI score, adapted from physical exam data</i>	• Cross-sectional study • No control group
<b>Bosch (2014b)</b>	Diagnosis CVI and low vision; n = 309  Setting: general hospital	Genetic causes visual functions and ophthalmological assessments	Putative causes for CVI	• Cross-sectional study • No control group
<b>Cavascan (2014)</b>	Children with CVI; n = 115  Setting: academic centre	Sweep VEP	VEP grating acuity	• Cross-sectional study • No control group
<b>Chadna (2021)</b>	Children with CVI; n = 31 Age-matched healthy controls; n = 28	Steady-state visual evoked potentials (SSVEP's) of motion	Sign deficits in relative and rotary motion	• Case-control study
<b>Chang (2021)</b>	Children with CVI; n = 16 Age-matched control (no ocular, neurological or developmental abnormalities); n = 6	Complete pediatric neuro-ophthalmologic examination, including grating acuity with eye-tracking	Results on pediatric ophthalmologic examination	• Development of an eye-tracking protocol
<b>Chang (2024)</b>	Children with CVI; n = 26	Eye tracking, Teller Acuity Cards (TAC)	Visual acuity (Grating acuity) Test-retest reliability (ICC)	• Reliability and validity study
<b>Clarke (1997)</b>	Children with CVI; n = 44  Setting: academic center	Flash visual evoked potential	Flash visual evoked potential. NPV, PPV, sensitivity, specificity	• Cohort study • No control group

<b>Dutton (1996)</b>	Children with CVI aged 0 – 16; n = 130	Ophthalmic and orthoptic assessments	Visual function	<ul style="list-style-type: none"> <li>• Retrospective cohort</li> <li>• No control group</li> </ul>
Setting: general hospital				
<b>Fazzi (2007)</b>	Children with CVI; n = 121, n = 129	Neurological and ophthalmic evaluation	Ophthalmic findings	<ul style="list-style-type: none"> <li>• Retrospective cohort</li> <li>• No control group</li> </ul>
Setting: general hospital				
<b>Frank (1992)</b>	Children with CVI without ocular pathology; n = 60	Pattern VEP	VEP findings on performed test	<ul style="list-style-type: none"> <li>• Case-control study</li> <li>• Unclear if control group was included</li> </ul>
Setting: academic center				
<b>Good (2012)</b>	Children with binocular reduced visual acuity; n = 34	Sweep VEP	VEP findings on performed test	<ul style="list-style-type: none"> <li>• Case-control study</li> <li>• Unclear if control group was included</li> </ul>
Setting: academic center				
<b>Howes (2022)</b>	Children with CVI; n = 55	Pattern reversal VEPs, teller or keeler grating acuity cards or Cardiff acuity cards, Kay pictures or Kay logMar letter charts	Behavioural visual acuity, resolution acuity, recognition acuity	<ul style="list-style-type: none"> <li>• Retrospective review of hospital records</li> <li>• No control group</li> </ul>
<b>Huurneman (2012)</b>	Children with CVI	Review	Crowding ratio's	<i>Systematic Review of 22 studies Pike (1994) and Jacobsen (1996) included</i>
Setting: academic center				
<b>Itzhak (2023)</b>	Children with CVI; n = 44	Eye-tracking Children's visual impairment test (CVIT 3-6), (retrospective) visuoperceptual dimension results, Flemish Cerebral Visual Impairment Questionnaire (FCVIQ)	Visual orienting functions, visual perception	<ul style="list-style-type: none"> <li>• Retrospective review</li> <li>• No control group</li> </ul>
<b>Jacobson (2019)</b>	Children with CVI; n = 6	OCT	OCT-findings (GCL and inner plexiform layer thickness)	<ul style="list-style-type: none"> <li>• Case-series</li> <li>• No control group</li> </ul>
<b>Kelly (2021)</b>	Children with visuo-motor dysfunction *with normal MRI (n = 10) *with abnormal MRI (n = 14) *with metabolic disorders (n = 6) *with severe CVI (n = 10)	Eye-movement assessments: Ophthalmological clinical findings, VEPs, Teller acuity cards, oculomotor recordings, DTI tractography	Results on ophthalmological clinical findings (including eye-movement), preferential looking visual acuity, white matter metrics	Retrospective review of hospital records
<b>Khetpal (2007)</b>	Children with CVI; n = 98	Pediatric ophthalmologic examinations	Ophthalmic and findings	<ul style="list-style-type: none"> <li>• Longitudinal study</li> <li>• No control group</li> </ul>
Setting: academic center				
<b>Kooiker (2014)</b>	Children with CVI; n = 149	Eye tracking		<ul style="list-style-type: none"> <li>• Longitudinal study</li> </ul>

	Controls recruited at daycare; n = 127			
Setting academic center				
<b>Lim (2005)</b>	Children who were born at term with a history of cerebral damage before or during birth of hypoxia and evidence on MRI for Cerebral damage in a pattern which is typical for hypoxic ischemic encephalopathy; n = 19	VEP and preferential looking	Preferential looking acuity and VEP acuity	<ul style="list-style-type: none"> <li>• Cross-sectional study</li> <li>• No control group, compared to normal development</li> </ul>
Setting: academic center				
<b>Luckman (2020)</b>	Children with CVI after arterial stroke; n = 26	Optahlmological investigation and visual function	Visual function	<ul style="list-style-type: none"> <li>• No control group</li> <li>• Information retrieved from Boonstra, 2021</li> </ul>
<b>Mayer (2020)</b>	Children with CVI; n = 20	DH log10 CS test (new contrast sensitivity test for pediatric patients)	Contrast sensitivity	<ul style="list-style-type: none"> <li>• Cross-sectional study</li> <li>• No control group</li> <li>• Information retrieved from Boonstra, 2021</li> </ul>
<b>Mooney (2021)</b>	Children with brain injury or other diagnosed visual impairment; n = 10	Gaze-based eye-tracking computer program: visual ladder	Visual function, eye movements.	<ul style="list-style-type: none"> <li>• Development of eye-tracking program</li> <li>• No control group</li> </ul>
<b>Pel (2016)</b>	Preterm children; n = 20 Normally sighted children; n = 15	Colour pattern and motion eye-tracking	Reaction to fixation	<ul style="list-style-type: none"> <li>• Retrospective cohort</li> <li>• Information retrieved from Boonstra, 2021</li> </ul>
<b>Pike (1994)</b>	Children with different lesions on ultrasound examination; n = 42	Ultrasound examination at 35 weeks gestational age <i>Visual impairment</i>	Visual impairment	• No control group
Setting: academic center				
<b>Portengen (2020)</b>	Children with CVI; n = 115	Visual field measurements, full field peritest, Goldman and behavioural	Visual field	<ul style="list-style-type: none"> <li>• Cross-sectional study</li> <li>• No control group</li> <li>• Information retrieved from Boonstra, 2021</li> </ul>
<b>Philip (2023)</b>	Children with CVI; n = 57	Extensive test battery: visual acuity, contrast sensitivity, ocular alignment, eye movement analysis, visual field analysis, optic nerve head evaluation, and evaluation of visual Perception	Results on clinical tests. CVI-subgroups.	• Retrospective review of hospital records

		Limited test battery: visual acuity, contrast sensitivity, ocular alignment, and evaluation of visual perception		
<b>Raja (2021)</b>	Children with CVI; n = 218	VEP and preferential looking	Preferential looking	<ul style="list-style-type: none"> <li>• Cross-sectional study</li> <li>• No control group</li> <li>• Information retrieved from Boonstra, 2021</li> </ul>
<b>Ruberto (2006)</b>	Children with CVI; n = 24 Typically developing children; n = 88	OCT and HRT	OCT and HRT findings	<ul style="list-style-type: none"> <li>• Cross sectional study</li> <li>• No control group</li> </ul>
	Setting: general hospital			
<b>Saidkasimova (2007)</b>	Children with CVI; n = 7	Ophthalmic and orthoptic tests	Ophthalmological and orthoptic Findings	<ul style="list-style-type: none"> <li>• Retrospective case-series</li> <li>• No control group</li> </ul>
	Setting: general hospital			
<b>Sakai (2003)</b>	Children with CVI; n = 9	Detection of optokinetic nystagmus, detection of ocular pursuit	Ophthalmological findings	<ul style="list-style-type: none"> <li>• Case-series</li> <li>• No control group</li> </ul>
	Setting: academic center			
<b>Sakki (2021)</b>	Children with suspected or diagnosed CVI; n = 63	Standard clinical tests, including assessment of cognitive, basic and higher-order vision functions	Results on clinical test (including visual acuity, contrast sensitivity, stereo acuity and higher vision)	<ul style="list-style-type: none"> <li>• Cross-sectional study to develop data-driven subgrouping method</li> <li>• No control group</li> </ul>
<b>Salati (2002)</b>	Children with CVI and CP; n = 51	Ophthalmological assessment	Ophthalmological findings	<ul style="list-style-type: none"> <li>• Retrospective cohort</li> <li>• No control group</li> </ul>
	Setting: academic center			
<b>Silveira (2023)</b>	Children with CVI; n = 132	Vision assessment	Outcomes on visual field assessments, primary and secondary ocular diagnoses	• Cross-sectional study (review from national register)
<b>Skoczenski (2004)</b>	Children with CVI; n = 35 Data from patients with normal vision was taken from a different study	Grating acuity and Vernier Acuity	Grating acuity and Vernier Acuity	• Geen controle groep
	Setting: academic center			
<b>Tanke (2021)</b>	Children with CVI; n = 30 Visually impaired children; n = 33 Normally sighted children; n = 96	Digital Developmental Eye Movement Test (DEM)	Outcomes on DEM test	<ul style="list-style-type: none"> <li>• Case-control study</li> <li>• Information retrieved from Boonstra, 2021</li> </ul>
<b>Tinnelli (2020)</b>	Children with severe CVI; n = 72	MRI	Association between brain lesions and visual function score	<ul style="list-style-type: none"> <li>• Cross-sectional study</li> <li>• No control group</li> <li>• Information retrieved from Boonstra, 2021</li> </ul>

<b>Watson (2007)</b>	Children with CVI; n = 39  Setting: academic center	Sweep VEP	Findings on the performed tests	<ul style="list-style-type: none"> <li>• Cross-sectional study</li> <li>• No control group</li> </ul>
<b>Watson (2009)</b>	Children with CVI; n = 39  Setting: academic center	Sweep VEP, Grating acuity Vernier acuity, Ophthalmologic assessment	Findings on the performed tests	<ul style="list-style-type: none"> <li>• No control group</li> </ul>
<b>Watson (2010)</b>	Children with CVI; n = 33  Setting: academic center	Vernier acuity, Preferential looking Acuity VEP	Findings on the performed tests	<ul style="list-style-type: none"> <li>• Cross-sectional study</li> <li>• No control group</li> </ul>
<b>de Weger (2020)</b>	Children with down syndrome with accommodative lags, n = 119	Binocularity, stereopsis, manifest and latent strabismus	Findings on the performed tests	<ul style="list-style-type: none"> <li>• Randomized controlled trial</li> </ul>
<b>van der Zee (2017)</b>	Children with CVI; n = 20 Visually impaired children; n = 38 Children with CVI + visually impaired; n = 14  Setting: general hospital	Eye tracking	Eye-tracking results	<ul style="list-style-type: none"> <li>• Cross sectional study</li> </ul>

## Table of excluded studies

Reference	Reason for exclusion
Costa ACRVD, Ferraz NN, Berezovsky A. Cognitive, motor, and visual development in healthy children in the first 42 months of life. <i>Arq Bras Oftalmol.</i> 2021 Jul 14;84(5):436-441. doi: 10.5935/0004-2749.20210068. PMID: 34320102.	Wrong population; healthy children.
Duke RE, Nwachukwu J, Torty C, Okorie U, Kim MJ, Burton K, Gilbert C, Bowman R. Visual impairment and perceptual visual disorders in children with cerebral palsy in Nigeria. <i>Br J Ophthalmol.</i> 2022 Mar;106(3):427-434. doi: 10.1136/bjophthalmol-2020-317768. Epub 2020 Dec 2. PMID: 33268343.	Overview of ocular morbidity and visual impairment in a sample of children with Cerebral Palsy in Nigeria
Halder T, Ludwig K, Schenk T. Binocular rivalry reveals differential face processing in congenital prosopagnosia. <i>Sci Rep.</i> 2024 Mar 20;14(1):6687. doi: 10.1038/s41598-024-55023-7. PMID: 38509151; PMCID: PMC10954711.	Study on interpretation of faces in children with cerebral palsy
Imamoglu EY, Acar Z, Karatoprak EY, Ozumut SH, Ocak SY, Imamoglu S, Ovalı F. Neurological and Visual Outcomes in Infants and Toddlers Following Therapeutic Hypothermia for Neonatal Hypoxic-Ischemic Encephalopathy. <i>Pediatr Neurol.</i> 2024 Feb;151:131-137. doi: 10.1016/j.pediatrneurol.2023.11.002. Epub 2023 Nov 17. PMID: 38157718.	Study on neurological assessments, only 4 children had CVI
Khurana R, Shyamsundar K, Taank P, Singh A. Periventricular leukomalacia: an ophthalmic perspective. <i>Med J Armed Forces India.</i> 2021 Apr;77(2):147-153. doi: 10.1016/j.mjafi.2020.05.013. Epub 2020 Jul 15. PMID: 33867629; PMCID: PMC8042490.	Wrong design; narrative review
Koenraad, Y. Visual Field Examination in Children with Brain Disorders. Utrecht: Universiteit Utrecht, Proefschriftmaken.nl & Uitgeverij BOXPress. 2016.	Included in Boonstra 2022; evidence table not available.
Lennartsson F, Öhnell H, Jacobson L, Nilsson M. Pre- and Postnatal Damage to the Retro-Geniculate Visual Pathways Cause Retinal Degeneration Predictive for Visual Function. <i>Front Hum Neurosci.</i> 2021 Oct 26;15:734193. doi: 10.3389/fnhum.2021.734193. PMID: 34764861; PMCID: PMC8577566.	Included in Boonstra 2022; evidence table not available.
Lowes J, Hancock PJB, Bobak AK. A new way of classifying developmental prosopagnosia: Balanced Integration Score. <i>Cortex.</i> 2024 Mar;172:159-184. doi: 10.1016/j.cortex.2023.12.011. Epub 2024 Jan 17. PMID: 38330779.	Study on classification of developmental prosopagnosia.
Naber M, Roelofzen C, Fracasso A, Bergsma DP, van Genderen M, Porro GL, Dumoulin SO. Gaze-Contingent Flicker Pupil Perimetry Detects Scotomas in Patients With Cerebral Visual Impairments or Glaucoma. <i>Front Neurol.</i> 2018 Jul 10;9:558. doi: 10.3389/fneur.2018.00558. PMID: 30042727; PMCID: PMC6048245.	Included in Boonstra 2022; evidence table not available.
Mansukhani SA, Ho ML, Brodsky MC. Abnormal Vestibular-Ocular Reflexes in Children With Cortical Visual Impairment. <i>J Neuroophthalmol.</i> 2021 Dec 1;41(4):531-536. doi: 10.1097/WNO.0000000000000999. PMID: 32672437.	Included in Boonstra 2022; evidence table not available.
Porro G, Dekker EM, Van Nieuwenhuizen O, Wittebol-Post D, Schilder MB, Schenk-Rootlieb AJ, Treffers WF. Visual behaviours of neurologically impaired children with cerebral visual impairment: an ethological study. <i>Br J Ophthalmol.</i> 1998 Nov;82(11):1231-5. doi: 10.1136/bjo.82.11.1231. PMID: 9924323; PMCID: PMC1722409.	Included in Boonstra 2022; evidence table not available.
Shaw E, Flitcroft I, Bowman R, Baker K; Genomics England Research Consortium. Cerebral visual impairment: genetic diagnoses and phenotypic associations. <i>J Med Genet.</i> 2024 May 21;61(6):605-612. doi: 10.1136/jmg-2023-109670. PMID: 38458753; PMCID: PMC11137471.	Study on genetic assessment

## Literature search strategy

### Algemene informatie

Cluster/richtlijn: Oog

Uitgangsvraag/modules: UV3 Welk oogheelkundig en orthoptisch onderzoek dient uitgevoerd te worden bij een kind met een verdenking op CVI?	
Database(s): Embase.com, Ovid/Medline	Datum: 5-10-2023
Periode: vanaf 2021	Talen: geen restrictie
Literatuurspecialist: Ingeborg van Dusseldorp, Esther van der Bijl	Rayyan review: <a href="https://rayyan.ai/reviews/799028">https://rayyan.ai/reviews/799028</a>
BMI-zoekblokken: voor verschillende opdrachten wordt (deels) gebruik gemaakt van de zoekblokken van BMI-Online <a href="https://blocks.bmi-online.nl/">https://blocks.bmi-online.nl/</a> Bij gebruikmaking van een volledig zoekblok zal naar de betreffende link op de website worden verwezen.	
<b>Toelichting:</b> Voor deze vraag is gezocht op de concepten:  <b>Cerebral visual impairment EN oogonderzoek</b>  Het sleutelartikel wordt gevonden. Vanwege het beperkt aantal gevonden artikelen wordt het diagnostisch filter sensitiviteit en specificiteit en kinderen niet gebruikt.	

### Zoekopbrengst

	EMBASE	OVID/MEDLINE	Ontdubbeld
Totaal	151	85	181
RCT			
Observationele studies			
<b>Totaal</b>			<b>*181</b>

\*in Rayyan

### Zoekstrategie

#### Embase.com

No.	Query	Results
#1	'cerebral blindness'/exp OR 'cortical amaurosis':ti,ab,kw OR (((cerebr* OR cortex OR cortical OR cogniti* OR brain) NEAR/3 (blind* OR 'vis* impair*' OR 'vis* disorder*')):ti,ab,kw) OR (cvi:ti,ab,kw AND (cp:ti,ab,kw OR 'cerebr* pals*':ti,ab,kw OR vis*:ti,ab,kw)) OR ('higher perceptual' NEAR/2 (deficit* OR dysfunction*)):ti,ab,kw) OR 'cerebral visual impairment'	7376
#2	'visual system examination'/exp OR 'visual acuity testing equipment'/exp OR 'visual perception test'/exp OR 'perimetry'/exp OR 'orthoptics'/exp OR 'ophthalmoscopy'/exp OR 'ophthalmological diagnostic device'/exp OR 'vision test'/exp OR 'slit lamp microscopy'/exp OR 'slit lamp':ti,ab,kw OR 'tonoref ii':ti,ab,kw OR 'tonoref iii':ti,ab,kw OR (((ophthalm* OR otolog* OR ocular* OR orthopt* OR 'visual acuit*' OR vision) NEAR/2 (finding* OR diagnos* OR test* OR screen*)):ti,ab,kw) OR ((vision NEAR/2 electrophysiolog*):ti,ab,kw) OR 'ophthalmic diagnostic set':ti,ab,kw OR 'ophthalmological diagnostic device':ti,ab,kw OR 'otologic diagnostic set':ti,ab,kw OR 'vision electrophysiology analysis system':ti,ab,kw OR 'chromatooophthalmoscop*':ti,ab,kw OR 'fundoscop*':ti,ab,kw OR 'funduscop*':ti,ab,kw OR 'ophthalmoscop*':ti,ab,kw OR 'orthoptic*':ti,ab,kw OR 'perimetru*':ti,ab,kw OR 'visual field examination*':ti,ab,kw OR 'visual field test*':ti,ab,kw OR campimetr*:ti,ab,kw OR 'ophthalmological diagnostic techniques':ti,ab,kw OR (((visual OR ophthalmol*) NEAR/3 test*):ti,ab,kw)	247148
#3	#1 AND #2	750
#4	'sensitivity and specificity'/de OR sensitivity:ab,ti OR specificity:ab,ti OR predict*:ab,ti OR 'roc curve':ab,ti OR 'receiver operator':ab,ti OR 'receiver operators':ab,ti OR likelihood:ab,ti OR 'diagnostic error'/exp OR 'diagnostic accuracy'/exp OR 'diagnostic test accuracy study'/exp OR 'inter observer':ab,ti OR 'intra observer':ab,ti OR interobserver:ab,ti OR intraobserver:ab,ti OR validity:ab,ti OR kappa:ab,ti OR reliability:ab,ti OR reproducibility:ab,ti OR ((test NEAR/2 're-test'):ab,ti) OR ((test NEAR/2 'retest'):ab,ti) OR 'reproducibility'/exp OR accuracy:ab,ti OR 'differential diagnosis'/exp OR 'validation study'/de OR 'measurement precision'/exp OR 'diagnostic value'/exp OR 'reliability'/exp OR 'predictive value'/exp OR ppv:ti,ab,kw OR npv:ti,ab,kw OR (((false OR true) NEAR/3 (negative OR positive))):ti,ab)	6185457
#5	#3 AND #4	186

#6	#3 AND [01-06-2021]/sd NOT ('conference abstract'/it OR 'editorial'/it OR 'letter'/it OR 'note'/it) NOT ('animal'/exp OR 'animal experiment'/exp OR 'animal model'/exp OR 'nonhuman'/exp) NOT 'human'/exp)	151
#7	'the multidisciplinary guidelines for diagnosis and referral in cerebral visual impairment'	2
#8	#6 AND #7	1

#### Ovid/Medline

#	Searches	Results
1	exp Blindness, Cortical/ or cortical amaurosis.ti,ab,kf. or ((cerebr* or cortex or cortical or cogniti* or brain) adj3 (blind* or vis* impair* or vis* disorder*).ti,ab,kf. or (cvi and (cp or cerebr* pals* or vis*)).ti,ab,kf. or (higher perceptual adj2 (deficit* or dysfunction*)).ti,ab,kf.	3765
2	exp Vision Tests/ or exp Orthoptics/ or exp Diagnostic Techniques, Ophthalmological/ or slit lamp.ti,ab,kf. or tonoref ii.ti,ab,kf. or tonoref iii.ti,ab,kf. or ((ophthalm* or otolog* or ocular* or orthopt* or visual acuit* or vision) adj2 (finding* or diagnos* or test* or screen*).ti,ab,kf. or (vision adj2 electrophysiolog*).ti,ab,kf. or ophthalmic diagnostic set.ti,ab,kf. or ophthalmological diagnostic device.ti,ab,kf. or otologic diagnostic set.ti,ab,kf. or vision electrophysiology analysis system.ti,ab,kf. or chromatoophthalmoscop*.ti,ab,kf. or fundoscop*.ti,ab,kf. or funduscop*.ti,ab,kf. or ophthalmoscop*.ti,ab,kf. or orthoptic*.ti,ab,kf. or perimetr*.ti,ab,kf. or visual field examination*.ti,ab,kf. or visual field test*.ti,ab,kf. or campimetr*.ti,ab,kf. or ophthalmological diagnostic techniques.ti,ab,kf. or ((visual or ophthalmol*) adj3 test*).ti,ab,kf.	229131
3	1 and 2	499
4	limit 3 to yr="2021 -Current"	91
5	4 not ((exp animals/ or exp models, animal/) not humans/) not (letter/ or comment/ or editorial/)	85

Cluster/richtlijn: Oog - UV3	
Uitgangsvraag/modules: Welk oogheelkundig en orthoptisch onderzoek dient uitgevoerd te worden bij een kind met een verdenking op CVI?	
Database(s): Embase.com, Ovid/Medline	Datum: 24-4-2024
Periode: vanaf 5 oktober 2023	Talen: geen restrictie
Literatuurspecialist: Ingeborg van Dusseldorp, Esther van der Bijl	Rayyan review: <a href="https://rayyan.ai/reviews/799028">https://rayyan.ai/reviews/799028</a>
BMI-zoekblokken: voor verschillende opdrachten wordt (deels) gebruik gemaakt van de zoekblokken van BMI-Online <a href="https://blocks.bmi-online.nl/">https://blocks.bmi-online.nl/</a> Bij gebruikmaking van een volledig zoekblok zal naar de betreffende link op de website worden verwezen.	
<b>Toelichting:</b> Voor deze vraag is gezocht op de concepten:	
<b>Cerebral visual impairment EN oogonderzoek</b>	
Dit is een update van de search die op 5 oktober 2023 is uitgevoerd.	

#### Zoekopbrengst 24-4-2024

	EMBASE	OVID/MEDLINE	Rayyan	Ontdubbeld
Totaal	188	109	188	47*
RCT				

Observationele studies				
Totaal				

\*in Rayyan

#### Zoekopbrengst 5-10-2023

	EMBASE	OVID/MEDLINE	Ontdubbeld
Totaal	151	85	181
RCT			
Observationele studies			
Totaal			*181

\*in Rayyan

#### Zoekstrategie Embase.com 24-4-2024

No.	Query	Results
#1	'cerebral blindness'/exp OR 'cortical amaurosis':ti,ab,kw OR (((cerebr* OR cortex OR cortical OR cogniti* OR brain) NEAR/3 (blind* OR 'vis* impair*' OR 'vis* disorder*')):ti,ab,kw) OR (cvi:ti,ab,kw AND (cp:ti,ab,kw OR 'cerebr* pals*':ti,ab,kw OR vis*:ti,ab,kw)) OR ('higher perceptual' NEAR/2 (deficit* OR dysfunction*)):ti,ab,kw) OR 'cerebral visual impairment'	7629
#2	'visual system examination'/exp OR 'visual acuity testing equipment'/exp OR 'visual perception test'/exp OR 'perimetry'/exp OR 'orthoptics'/exp OR 'ophthalmoscopy'/exp OR 'ophthalmological diagnostic device'/exp OR 'vision test'/exp OR 'slit lamp microscopy'/exp OR 'slit lamp':ti,ab,kw OR 'tonoref ii':ti,ab,kw OR 'tonoref iii':ti,ab,kw OR (((ophthalm* OR otolog* OR ocular* OR orthopt* OR 'visual acuit*' OR vision) NEAR/2 (finding* OR diagnos* OR test* OR screen*)):ti,ab,kw) OR ((vision NEAR/2 electrophysiolog*):ti,ab,kw) OR 'ophthalmic diagnostic set':ti,ab,kw OR 'ophthalmological diagnostic device':ti,ab,kw OR 'otologic diagnostic set':ti,ab,kw OR 'vision electrophysiology analysis system':ti,ab,kw OR 'chromatoophthalmoscop*':ti,ab,kw OR 'fundoscop*':ti,ab,kw OR 'ophthalmoscop*':ti,ab,kw OR 'orthoptic*':ti,ab,kw OR 'perimetru*':ti,ab,kw OR 'visual field examination*':ti,ab,kw OR 'visual field test*':ti,ab,kw OR campimetr*:ti,ab,kw OR 'ophthalmological diagnostic techniques':ti,ab,kw OR (((visual OR ophthalmol*) NEAR/3 test*):ti,ab,kw)	255543
#3	#1 AND #2	791
#4	#3 AND [01-06-2021]/sd NOT ('conference abstract'/it OR 'editorial'/it OR 'letter'/it OR 'note'/it) NOT ('animal'/exp OR 'animal experiment'/exp OR 'animal model'/exp OR 'nonhuman'/exp) NOT 'human'/exp)	188

#### Zoekstrategie Ovid/Medline 24-4-2024

#	Searches	Results
1	exp Blindness, Cortical/ or cortical amaurosis.ti,ab,kf. or ((cerebr* or cortex or cortical or cogniti* or brain) adj3 (blind* or vis* impair* or vis* disorder*)).ti,ab,kf. or (cvi and (cp or cerebr* pals* or vis*)).ti,ab,kf. or (higher perceptual adj2 (deficit* or dysfunction*)).ti,ab,kf.	3908
2	exp Vision Tests/ or exp Orthoptics/ or exp Diagnostic Techniques, Ophthalmological/ or slit lamp.ti,ab,kf. or tonoref ii.ti,ab,kf. or tonoref iii.ti,ab,kf. or (((ophthalm* or otolog* or ocular* or orthopt* or visual acuit* or vision) adj2 (finding* or diagnos* or test* or screen*)).ti,ab,kf. or (vision adj2 electrophysiolog*).ti,ab,kf. or ophthalmic diagnostic set.ti,ab,kf. or ophthalmological diagnostic device.ti,ab,kf. or otologic diagnostic set.ti,ab,kf. or vision electrophysiology analysis system.ti,ab,kf. or chromatoophthalmoscop*.ti,ab,kf. or fundoscop*.ti,ab,kf. or funduscop*.ti,ab,kf. or ophthalmoscop*.ti,ab,kf. or orthoptic*.ti,ab,kf. or perimetru*.ti,ab,kf. or visual field examination*.ti,ab,kf. or visual field test*.ti,ab,kf. or campimetr*.ti,ab,kf. or ophthalmological diagnostic techniques.ti,ab,kf. or (((visual or ophthalmol*) adj3 test*).ti,ab,kf)	232703
3	1 and 2	526
4	limit 3 to yr="2021 -Current"	117
5	4 not ((exp animals/ or exp models, animal/) not humans/) not (letter/ or comment/ or editorial/)	109

## Bijlagen bij module neuroradiologie bij CVI

### Risk of Bias tables

Not applicable.

### Table of excluded studies

Reference	Reason for exclusion
Bavle A, Srinivasan A, Choudhry F, Anderson M, Confer M, Simpson H, Gavula T, Thompson JS, Clifton S, Gross NL, McNall-Knapp R. Systematic review of the incidence and risk factors for cerebral vasculopathy and stroke after cranial proton and photon radiation for childhood brain tumors. <i>Neurooncol Pract.</i> 2020 Sep 28;8(1):31-39. doi: 10.1093/nop/npaa061. PMID: 33664967; PMCID: PMC7906269.	No description of visual disturbances/impairment as a consequence of Radiotherapy
Clausen NG, Kähler S, Hansen TG. Systematic review of the neurocognitive outcomes used in studies of paediatric anaesthesia neurotoxicity. <i>Br J Anaesth.</i> 2018 Jun;120(6):1255-1273. doi: 10.1016/j.bja.2017.11.107. Epub 2018 Feb 3. PMID: 29793593.	not relevant; SR on outcomes/measures used in studies on outcomes of anaesthesia in children
Farias Barroso AL, Santos Barroso M, Rodrigues Bachur TP. Clinical and radiological manifestations of acute disseminated encephalomyelitis associated with the main arboviruses. <i>Rev Cuba Med Trop.</i> 2022:e668-e668.	Wrong population: cases described in the review were adults
Husson B, Durand C, Hertz-Pannier L. Recommandations concernant l'imagerie de l'accident vasculaire cérébral ischémique du nouveau-né [Recommendations for imaging neonatal ischemic stroke]. <i>Arch Pediatr.</i> 2017 Sep;24(9S):9S19-9S27. French. doi: 10.1016/S0929-693X(17)30327-5. PMID: 28867033.	Article in french
Maiese A, Iannaccone F, Scatena A, Del Fante Z, Oliva A, Frati P, Fineschi V. Pediatric Abusive Head Trauma: A Systematic Review. <i>Diagnostics (Basel).</i> 2021 Apr 20;11(4):734. doi: 10.3390/diagnostics11040734. PMID: 33924220; PMCID: PMC8074611.	No description of visual disturbances or MRI findings
Ongun H, Kihitir Z, Zarif NO, Ozyurt OK, Kara TT, Celik K, et al. Challenges in diagnosis and treatment of neonatal ventriculitis: a case report and systematic review of difficult-to-treat central nervous system infection resistant to conventional therapy. <i>J Pediatr Infect Dis.</i> 2024.	Wrong design: Systematic review of case reports en case-series
Pal R, Rai A, Vaiphei K, Gangadhar P, Gupta P, Mukherjee KK, Singh P, Ray N, Bhansali A, Dutta P. Intracranial Germinoma Masquerading as Secondary Granulomatous Hypophysitis: A Case Report and Review of Literature. <i>Neuroendocrinology.</i> 2020;110(5):422-429. doi: 10.1159/000501886. Epub 2019 Jul 4. PMID: 31269501.	Case report + SR van case-reports (n = 1)

### Literature search strategy

#### Algemene informatie

Cluster/richtlijn: Oog - UV4 Neuroradiologie bij CVI - CVI en MRI en visueel hersen 2017
Uitgangsvraag/modules: Wat is de rol van de neuroradiologische beeldvorming bij het stellen van de diagnose CVI?
Database(s): Embase.com, Ovid/Medline
Periode: vanaf 2017
Literatuurspecialist: Esther van der Bijl
BMI-zoekblokken: voor verschillende opdrachten wordt (deels) gebruik gemaakt van de zoekblokken van BMI-Online <a href="https://blocks.bmi-online.nl/">https://blocks.bmi-online.nl/</a>
Deduplication: voor het ontdubbelen is gebruik gemaakt van <a href="http://dedupendnote.nl/">http://dedupendnote.nl/</a>
<b>Toelichting:</b> Voor deze vraag is gezocht op de elementen kinderen EN (CVI OF (hersenaandoeningen EN visuele beperkingen)) EN MRI.
Het volgende sleutelartikelen wordt gevonden met deze search: <ul style="list-style-type: none"> <li>Philip SS, Guzzetta A, Chorna O, Gole G, Boyd RN. Relationship between brain structure and Cerebral Visual Impairment in children with Cerebral Palsy: A systematic review. <i>Res Dev Disabil.</i> 2020 Jan 28;99:103580. doi: 10.1016/j.ridd.2020.103580. Epub ahead of print. PMID: 32004872. <a href="https://pubmed.ncbi.nlm.nih.gov/32004872/">https://pubmed.ncbi.nlm.nih.gov/32004872/</a></li> </ul>

- Stefania P, Francesca T. Visual impairment and periventricular leukomalacia in children: A systematic review. *Res Dev Disabil.* 2023 Apr;135:104439. doi:10.1016/j.ridd.2023.104439. Epub 2023 Feb 14. PMID: 36796269. ↗
- Pamir, Z., Bauer, C. M., Bailin, E. S., Bex, P. J., Somers, D. C., and Merabet, L. B. (2021). Neural correlates associated with impaired global motion perception in cerebral visual impairment (CVI). *Neuroimage Clin.* 32:102821. doi: 10.1016/j.nicl.2021.102821

De volgende sleutelartikelen worden niet gevonden met deze search:

- Tinelli, F., Guzzetta, A., Purpura, G., Pasquariello, R., Cioni, G., and Fiori, S. (2020). Structural brain damage and visual disorders in children with cerebral palsy due to periventricular leukomalacia. *Neuroimage Clin.* 28:102430. doi:10.1016/j.nicl.2020.102430 → **volt uit op studiedesign**
- Ho, M. L., Mansukhani, S. A., and Brodsky, M. C. (2020). Prenatal or Perinatal Injury? Diagnosing the Cortically Blind Infant. *Am. J. Ophthalmol.* 211, 56–62. doi: 10.1016/j.ajo.2019.10.026 → **volt uit op studiedesign**

In eerste instantie worden alleen de SR's in Rayyan aangeboden.

#### Zoekopbrengst 26 juni 2024

	EMBASE	OVID/MEDLINE	Ontdubbeld
SR	317	61	329*
RCT	98	32	108
Totaal	415	93	437

\*in Rayyan

#### Zoekstrategie Embase.com 26 juni 2024

No.	Query	Results
#1	'adolescent'/exp OR 'baby'/exp OR 'boy'/exp OR 'child'/exp OR 'minors'/exp/mj OR 'pediatric patient'/exp OR 'pediatrics'/exp OR 'schoolchild'/exp OR infan*:ti,ab OR newborn*:ti,ab OR 'new born*':ti,ab OR perinat*:ti,ab OR neonat*:ti,ab OR baby*:ti,ab OR babies:ti,ab OR toddler*:ti,ab OR minors*:ti,ab OR boy:ti,ab OR boys:ti,ab OR boyfriend:ti,ab OR boyhood:ti,ab OR girl*:ti,ab OR kid:ti,ab OR kids:ti,ab OR child*:ti,ab OR children*:ti,ab OR schoolchild*:ti,ab OR adolescen*:ti,ab OR juvenil*:ti,ab OR youth*:ti,ab OR teen*:ti,ab OR pubescen*:ti,ab OR pediatric*:ti,ab OR paediatric*:ti,ab OR pediatric*:ti,ab OR school:ti,ab OR school*:ti,ab OR prematur*:ti,ab OR preterm*:ti,ab	5982181
#2	'cerebral blindness'/exp OR 'cortical amaurosis':ti,ab,kw OR (((cerebr* OR cortex OR cortical OR cogniti* OR brain) NEAR/3 (blind* OR 'vis* impair*' OR 'vis* disorder*')):ti,ab,kw) OR (cvi:ti,ab,kw AND (cp:ti,ab,kw OR 'cerebr* pals*':ti,ab,kw OR vis*:ti,ab,kw)) OR ('higher perceptual' NEAR/2 (deficit* OR dysfunction*)):ti,ab,kw) OR 'cerebral visual impairment'	7716
#3	'perinatal brain injury'/exp OR 'brain damage'/exp OR 'periventricular leukomalacia'/exp OR 'brain structure'/exp OR 'brain malformation'/exp OR 'hypoxic ischemic encephalopathy'/exp OR 'neurologic disease'/exp OR 'brain dysfunction'/exp OR 'prenatal injury'/exp OR ((perinatal NEAR/3 brain NEAR/3 injur*):ti,ab,kw) OR (((brain* OR cerebral OR hemisphere OR intracranial OR 'hypox* ischemic' OR nervous OR neur?!*) NEAR/3 (damage* OR lesion* OR structure* OR 'congenital anomal*! OR malformation* OR injur* OR dysfunct*)):ti,ab,kw) OR 'periventricular leukomalacia':ti,ab,kw	5018336
#4	'vision'/exp OR 'visual system'/exp OR perception:ti,ab,kw OR visual:ti,ab,kw OR vision:ti,ab,kw OR optic*:ti,ab,kw OR eye*:ti,ab,kw OR ocular*:ti,ab,kw	2308036
#5	#3 AND #4	418413
#6	#2 OR #5	422346
#7	#1 AND #6	93688
#8	'nuclear magnetic resonance imaging'/exp OR 'mri scanner'/exp OR 'neuroimaging'/exp OR 'neuroradiology'/exp OR ('magnetic resonance':ab,ti AND (image:ab,ti OR images:ab,ti OR imaging:ab,ti)) OR ((neuro NEAR/2 imag*):ti,ab,kw) OR mri:ab,ti OR mris:ab,ti OR nmr:ab,ti OR mra:ab,ti OR mras:ab,ti OR zeugmatograph*:ab,ti OR 'mr tomography':ab,ti OR 'mr tomographies':ab,ti OR 'mr tomographic':ab,ti OR 'mr imag*':ti,ab,kw OR 'proton spin':ab,ti OR ((magneti*:ab,ti OR 'chemical shift':ab,ti) AND imaging:ab,ti) OR fmri:ab,ti OR fmrис:ab,ti OR rsfmri:ab,kw OR 'neuroradiograph*':ti,ab,kw OR neuroradiolog*':ti,ab,kw OR 'neuroentoentgenolog*':ti,ab,kw OR 'neuroimag*':ti,ab,kw	1796773
#9	#7 AND #8	24300

#10	#9 AND [2017-2024]/py NOT ('conference abstract'/it OR 'editorial'/it OR 'letter'/it OR 'note'/it) NOT ('animal'/exp OR 'animal experiment'/exp OR 'animal model'/exp OR 'nonhuman'/exp) NOT 'human'/exp)	7167
#11	'meta analysis'/exp OR 'meta analysis (topic)'/exp OR metaanaly*:ti,ab OR 'meta analy*':ti,ab OR metanaly*:ti,ab OR 'systematic review'/:de OR 'cochrane database of systematic reviews'/:jt OR prisma:ti,ab OR prospero:ti,ab OR (((systemati* OR scoping OR umbrella OR 'structured literature') NEAR/3 (review* OR overview*)):ti,ab) OR (((systemic* NEAR/1 review*)):ti,ab) OR (((systemati* OR literature OR database* OR 'data base*') NEAR/10 search*):ti,ab) OR (((structured OR comprehensive* OR systemic*) NEAR/3 search*):ti,ab) OR (((literature NEAR/3 review*)):ti,ab) AND (search*:ti,ab OR database*:ti,ab OR 'data base*':ti,ab) OR ('data extraction':ti,ab OR 'data source*':ti,ab) AND 'study selection':ti,ab OR ('search strategy':ti,ab AND 'selection criteria':ti,ab) OR ('data source*':ti,ab AND 'data synthesis':ti,ab) OR medline:ab OR pubmed:ab OR embase:ab OR cochrane:ab OR (((critical OR rapid) NEAR/2 (review* OR overview* OR synthe*)):ti) OR (((critical* OR rapid*) NEAR/3 (review* OR overview* OR synthe*)):ab) AND (search*:ab OR database*:ab OR 'data base*':ab) OR metasynthes*:ti,ab OR 'meta synthe*':ti,ab	1040453
#12	'randomized controlled trial'/exp OR random*:ti,ab OR (((pragmatic OR practical) NEAR/1 'clinical trial*'):ti,ab) OR (((non inferiority' OR noninferiority OR superiority OR equivalence) NEAR/3 trial*):ti,ab) OR rct:ti,ab,kw	2215372
#13	#10 AND #11 – SR's	317
#14	#10 AND #12 NOT #13 – RCT's	98
#15	#13 OR #14	415

#### Zoekstrategie Ovid/Medline 26 juni 2024

#	Searches	Results
1	(child* or schoolchild* or infan* or adolescen* or pediatri* or paediatr* or neonat* or boy or boys or boyhood or girl or girls or girlhood or youth or youths or baby or babies or toddler* or childhood or teen or teens or teenager* or newborn* or postneonat* or postnat* or puberty or preschool* or suckling* or picu or nicu or juvenile?).tw.	3045745
2	exp Blindness, Cortical/ or cortical amaurosis.ti,ab,kf. or ((cerebr* or cortex or cortical or cogniti* or brain) adj3 (blind* or vis* impair* or vis* disorder*).ti,ab,kf. or (cvi and (cp or cerebr* pals* or vis*)).ti,ab,kf. or (higher perceptual adj2 (deficit* or dysfunction*)).ti,ab,kf.	3958
3	exp Brain Injuries/ or exp Brain Damage, Chronic/ or exp Leukomalacia, Periventricular/ or exp Hypoxia-Ischemia, Brain/ or exp Nervous System Diseases/ or (perinatal adj3 brain adj3 injur*).ti,ab,kf. or ((brain* or cerebral or hemisphere or intracranial or hypox* ischemic or nervous or neur?l*) adj3 (damage* or lesion* or structure* or congenital anomal* or malformation* or injur*).ti,ab,kf. or periventricular leukomalacia.ti,ab,kf.	3057021
4	exp Vision, Ocular/ or exp Visual Perception/ or perception.ti,ab,kf. or visual.ti,ab,kf. or vision.ti,ab,kf. or optic*.ti,ab,kf. or eye*.ti,ab,kf. or ocular*.ti,ab,kf.	1725149
5	3 and 4	266009
6	2 or 5	268167
7	1 and 6	43633
8	exp magnetic resonance imaging/ or ("magnetic resonance" and (image or images or imaging)).ti,ab,kf. or mri.ti,ab,kf. or mrис.ti,ab,kf. or nmr.ti,ab,kf. or mra.ti,ab,kf. or mras.ti,ab,kf. or zeugmatograph*.ti,ab,kf. or "mr tomography".ti,ab,kf. or "mr tomographies".ti,ab,kf. or "mr tomographic".ti,ab,kf. or "mr imag*".ti,ab,kf. or "proton spin".ti,ab,kf. or ((magneti* or "chemical shift") and imaging).ti,ab,kf. or fmri.ti,ab,kf. or fmrис.ti,ab,kf. or rsfmri.ti,ab,kf.	1001713
9	7 and 8	5962
10	limit 9 to yr="2017 -Current"	1891
11	10 not (comment/ or editorial/ or letter/) not ((exp animals/ or exp models, animal/) not humans/)	1856
12	meta-analysis/ or meta-analysis as topic/ or (metaanaly*:ti,ab,kf. or systematic review/ or cochrane.jw. or (prisma or prospero).ti,ab,kf. or (((systemati* OR scoping OR umbrella OR "structured literature") adj3 (review* OR overview*).ti,ab,kf. or (systemic* adj1 review*).ti,ab,kf. or (((systemati* OR literature OR database* OR data-base*) adj10 search*).ti,ab,kf. or (((structured OR comprehensive* OR systemic*) adj3 search*).ti,ab,kf. or (((literature adj3 review*) and (search* OR database* OR data-base*)).ti,ab,kf. or (((data extraction* OR data source*) and (study selection*).ti,ab,kf. or (((search strategy* OR selection criteria*).ti,ab,kf. or (((data source* OR data synthesis*).ti,ab,kf. or (((medline OR pubmed OR embase OR cochrane).ab. or (((critical OR rapid) adj2 (review* OR overview* OR synthe*).ti. or (((critical* OR rapid*) adj3 (review* OR overview* OR synthe*).ti. and (search* OR database* OR data-base*).ab. or (metasynthes* OR meta-synthes*).ti,ab,kf.	755460

13	exp randomized controlled trial/ or randomized controlled trials as topic/ or random*.ti,ab. or rct?.ti,ab. or ((pragmatic or practical) adj "clinical trial*").ti,ab,kf. or ((non-inferiority or noninferiority or superiority or equivalence) adj3 trial*).ti,ab,kf.	1727270
14	11 and 12 – <b>SR's</b>	61
15	(11 and 13) not 14 – RCT's	32
16	14 or 15	93

## Zoekverantwoording

### Algemene informatie

Cluster/richtlijn: Oog - UV4 Neuroradiologie bij CVI - CVI en MRI 2021	
Uitgangsvraag/modules: Wat is de rol van de neuroradiologische beeldvorming bij het stellen van de diagnose CVI?	
Database(s): Embase.com, Ovid/Medline	Datum: 26 juni 2024
Periode: vanaf 2021	Talen: geen restrictie
Literatuurspecialist: Esther van der Bijl	Rayyan review: <a href="https://rayyan.ai/reviews/1076249">https://rayyan.ai/reviews/1076249</a>
BMI-zoekblokken: voor verschillende opdrachten wordt (deels) gebruik gemaakt van de zoekblokken van BMI-Online <a href="https://blocks.bmi-online.nl/">https://blocks.bmi-online.nl/</a>	
Deduplication: voor het ontdubbelen is gebruik gemaakt van <a href="http://dedupendnote.nl/">http://dedupendnote.nl/</a>	

### Toelichting:

Voor deze vraag is gezocht op de elementen kinderen EN CVI EN MRI.

Het volgende sleutelartikel wordt gevonden met deze search:

- Pamir, Z., Bauer, C. M., Bailin, E. S., Bex, P. J., Somers, D. C., and Merabet, L. B. (2021). Neural correlates associated with impaired global motion perception in cerebral visual impairment (CVI). Neuroimage Clin. 32:102821. doi: 10.1016/j.nicl.2021.102821

De volgende sleutelartikelen worden niet gevonden met deze search:

- Philip SS, Guzzetta A, Chorna O, Gole G, Boyd RN. Relationship between brain structure and Cerebral Visual Impairment in children with Cerebral Palsy: A systematic review. Res Dev Disabil. 2020 Jan 28;99:103580. doi: 10.1016/j.ridd.2020.103580. Epub ahead of print. PMID: 32004872. <https://pubmed.ncbi.nlm.nih.gov/32004872/> → valt uit op jaar
- Tinelli, F., Guzzetta, A., Purpura, G., Pasquariello, R., Cioni, G., and Fiori, S. (2020). Structural brain damage and visual disorders in children with cerebral palsy due to periventricular leukomalacia. Neuroimage Clin. 28:102430. doi:10.1016/j.nicl.2020.102430 → valt uit op jaar
- Ho, M. L., Mansukhani, S. A., and Brodsky, M. C. (2020). Prenatal or Perinatal Injury? Diagnosing the Cortically Blind Infant. Am. J. Ophthalmol. 211, 56–62. doi: 10.1016/j.ajo.2019.10.026 → valt uit op jaar
- Stefania P, Francesca T. Visual impairment and periventricular leukomalacia in children: A systematic review. Res Dev Disabil. 2023 Apr;135:104439. doi:10.1016/j.ridd.2023.104439. Epub 2023 Feb 14. PMID: 36796269. → deze maakt in de title/abstract niet direct de link naar CVI → valt uit op zoekblok CVI

## Zoekopbrengst 26 juni 2024

	EMBASE	OVID/MEDLINE	Ontdubbeld
SR	9	3	9
RCT	11	1	11
Observationele studies	39	12	40
<b>Totaal</b>	<b>59</b>	<b>16</b>	<b>60*</b>

\*in Rayyan

## Zoekstrategie Embase.com 26 juni 2024

No.	Query	Results
#1	'adolescent'/exp OR 'baby'/exp OR 'boy'/exp OR 'child'/exp OR 'minors'/exp/mj OR 'pediatric patient'/exp OR 'pediatrics'/exp OR 'schoolchild'/exp OR infan*:ti,ab OR newborn*:ti,ab OR 'new born*':ti,ab OR perinat*:ti,ab OR neonat*:ti,ab OR baby*:ti,ab OR babies:ti,ab OR toddler*:ti,ab OR minors*:ti,ab OR boy:ti,ab OR boys:ti,ab OR boyfriend:ti,ab OR boyhood:ti,ab OR girl*:ti,ab OR kid:ti,ab OR kids:ti,ab OR child*:ti,ab OR children*:ti,ab OR schoolchild*:ti,ab OR adolescen*:ti,ab OR juvenil*:ti,ab OR youth*:ti,ab OR teen*:ti,ab OR pubescen*:ti,ab OR pediatric*:ti,ab OR	5982181

	paediatric*:ti,ab OR pediatric*:ti,ab OR school:ti,ab OR school*:ti,ab OR prematur*:ti,ab OR preterm*:ti,ab	
#2	'cerebral blindness'/exp OR 'cortical amaurosis':ti,ab,kw OR (((cerebr* OR cortex OR cortical OR cogniti* OR brain) NEAR/3 (blind* OR 'vis* impair*' OR 'vis* disorder*')):ti,ab,kw) OR (cv:ti,ab,kw AND (cp:ti,ab,kw OR 'cerebr* pals*':ti,ab,kw OR vis*:ti,ab,kw)) OR ('higher perceptual' NEAR/2 (deficit* OR dysfunction*)):ti,ab,kw)	7712
#3	'nuclear magnetic resonance imaging'/exp OR 'mri scanner'/exp OR 'neuroimaging'/exp OR 'neuroradiology'/exp OR ('magnetic resonance':ab,ti AND (image:ab,ti OR images:ab,ti OR imaging:ab,ti)) OR ((neuro NEAR/2 imag*):ti,ab,kw) OR mri:ab,ti OR mris:ab,ti OR nmr:ab,ti OR mra:ab,ti OR mras:ab,ti OR zeugmatograph*:ab,ti OR 'mr tomography':ab,ti OR 'mr tomographies':ab,ti OR 'mr tomographic':ab,ti OR 'mr imag*':ti,ab,kw OR 'proton spin':ab,ti OR ((magneti*:ab,ti OR 'chemical shift':ab,ti) AND imaging:ab,ti) OR fmri:ab,ti OR fmrис:ab,ti OR rsfmri:ti,ab,kw OR 'neuroradiograph*':ti,ab,kw OR neuroradiolog*:ti,ab,kw OR 'neuroroentgenolog*':ti,ab,kw OR 'neuroimag*':ti,ab,kw	1796773
#4	#1 AND #2 AND #3	730
#5	#4 AND [2021-2024]/py NOT ('conference abstract':it OR 'editorial':it OR 'letter':it OR 'note':it) NOT (('animal'):exp OR 'animal experiment':exp OR 'animal model':exp OR 'nonhuman':exp) NOT 'human':exp)	115
#6	'meta analysis'/exp OR 'meta analysis (topic)':exp OR metaanaly*:ti,ab OR 'meta analy*':ti,ab OR metanaly*:ti,ab OR 'systematic review':de OR 'cochrane database of systematic reviews':jt OR prisma:ti,ab OR prospero:ti,ab OR (((systemati* OR scoping OR umbrella OR 'structured literature') NEAR/3 (review* OR overview*)):ti,ab) OR ((systemic* NEAR/1 review*):ti,ab) OR (((systemati* OR literature OR database* OR 'data base*') NEAR/10 search*):ti,ab) OR (((structured OR comprehensive* OR systemic*) NEAR/3 search*):ti,ab) OR (((literature NEAR/3 review*):ti,ab) AND (search*:ti,ab OR database*:ti,ab OR 'data base*':ti,ab)) OR ('data extraction':ti,ab OR 'data source*':ti,ab) AND 'study selection':ti,ab) OR ('search strategy':ti,ab AND 'selection criteria':ti,ab) OR ('data source*':ti,ab AND 'data synthesis':ti,ab) OR medline:ab OR pubmed:ab OR embase:ab OR cochrane:ab OR (((critical OR rapid) NEAR/2 (review* OR overview* OR synthe*)):ti) OR (((critical* OR rapid*) NEAR/3 (review* OR overview* OR synthe*)):ab) AND (search*:ab OR database*:ab OR 'data base*':ab)) OR metasynthes*:ti,ab OR 'meta synthes*':ti,ab	1040453
#7	'clinical trial':exp OR 'randomization':exp OR 'single blind procedure':exp OR 'double blind procedure':exp OR 'crossover procedure':exp OR 'placebo':exp OR 'prospective study':exp OR rct:ab,ti OR random*:ab,ti OR 'single blind':ab,ti OR 'randomised controlled trial':ab,ti OR 'randomized controlled trial':exp OR placebo*:ab,ti	4058946
#8	'major clinical study':de OR 'clinical study':de OR 'case control study':de OR 'family study':de OR 'longitudinal study':de OR 'retrospective study':de OR 'prospective study':de OR 'comparative study':de OR 'cohort analysis':de OR ((cohort NEAR/1 (study OR studies)):ab,ti) OR ('case control' NEAR/1 (study OR studies)):ab,ti) OR ('follow up' NEAR/1 (study OR studies)):ab,ti) OR (observational NEAR/1 (study OR studies)) OR ((epidemiologic NEAR/1 (study OR studies)):ab,ti) OR ('cross sectional' NEAR/1 (study OR studies)):ab,ti)	8293598
#9	'case control study':de OR 'comparative study':exp OR 'control group':de OR 'controlled study':de OR 'controlled clinical trial':de OR 'crossover procedure':de OR 'double blind procedure':de OR 'phase 2 clinical trial':de OR 'phase 3 clinical trial':de OR 'phase 4 clinical trial':de OR 'pretest posttest design':de OR 'pretest posttest control group design':de OR 'quasi experimental study':de OR 'single blind procedure':de OR 'triple blind procedure':de OR (((control OR controlled) NEAR/6 trial):ti,ab,kw) OR (((control OR controlled) NEAR/6 (study OR studies)):ti,ab,kw) OR (((control OR controlled) NEAR/1 active):ti,ab,kw) OR 'open label*':ti,ab,kw OR (((double OR two OR three OR multi OR trial) NEAR/1 (arm OR arms)):ti,ab,kw) OR ((allocat* NEAR/10 (arm OR arms)):ti,ab,kw) OR placebo*:ti,ab,kw OR 'sham-control*':ti,ab,kw OR (((single OR double OR triple OR assessor) NEAR/1 (blind* OR masked)):ti,ab,kw) OR nonrandom*:ti,ab,kw OR 'non-random*':ti,ab,kw OR 'quasi-experiment*':ti,ab,kw OR crossover:ti,ab,kw OR 'cross over':ti,ab,kw OR 'parallel group*':ti,ab,kw OR 'factorial trial':ti,ab,kw OR ((phase NEAR/5 (study OR trial)):ti,ab,kw) OR ((case* NEAR/6 (matched OR control*)):ti,ab,kw) OR ((match* NEAR/6 (pair OR pairs OR cohort* OR control* OR group* OR healthy OR age OR sex OR gender OR patient* OR subject* OR participant*)):ti,ab,kw) OR ((propensity NEAR/6 (scor* OR match*)):ti,ab,kw) OR versus:ti,ab,kw OR vs:ti,ab,kw OR compar*:ti,ab,kw OR ((compar* NEAR/1 study):ti,ab,kw) OR ('major clinical study':de OR 'clinical study':de OR 'cohort analysis':de OR 'observational study':de OR 'cross-sectional study':de OR 'multicenter study':de OR 'correlational study':de OR 'follow up':de OR cohort*:ti,ab,kw OR 'follow up':ti,ab,kw OR followup:ti,ab,kw OR longitudinal*:ti,ab,kw OR prospective*:ti,ab,kw OR retrospective*:ti,ab,kw OR observational*:ti,ab,kw OR 'cross sectional*':ti,ab,kw OR cross?ectional*:ti,ab,kw OR multicent*:ti,ab,kw OR 'multi-cent*':ti,ab,kw OR consecutive*:ti,ab,kw) AND (group:ti,ab,kw OR groups:ti,ab,kw OR subgroup*:ti,ab,kw OR versus:ti,ab,kw OR vs:ti,ab,kw OR compar*:ti,ab,kw OR 'odds ratio*':ab OR 'relative odds':ab OR	15197295

	'risk ratio*':ab OR 'relative risk*':ab OR 'rate ratio':ab OR aor:ab OR arr:ab OR rrr:ab OR (((('or' OR 'rr') NEAR/6 ci):ab)))	
#10	#5 AND #6 – SR's	9
#11	#5 AND #7 NOT #10 – RCT's	11
#12	#5 AND (#8 OR #9) NOT (#10 OR #11) – Observationele studies	39
#13	#10 OR #11 OR #12	59

**Zoekstrategie Ovid/Medline 26 juni 2024**

#	Searches	Results
1	(child* or schoolchild* or infan* or adolescen* or pediatri* or paediatr* or neonat* or boy or boys or boyhood or girl or girls or girlhood or youth or youths or baby or babies or toddler* or childhood or teen or teens or teenager* or newborn* or postneonat* or postnat* or puberty or preschool* or suckling* or picu or nicu or juvenile?).tw.	3045745
2	exp Blindness, Cortical/ or cortical amaurosis.ti,ab,kf. or ((cerebr* or cortex or cortical or cogniti* or brain) adj3 (blind* or vis* impair* or vis* disorder*)).ti,ab,kf. or (cvi and (cp or cerebr* pals* or vis*)).ti,ab,kf. or (higher perceptual adj2 (deficit* or dysfunction*)).ti,ab,kf.	3958
3	exp magnetic resonance imaging/ or ("magnetic resonance" and (image or images or imaging)).ti,ab,kf. or mri.ti,ab,kf. or mris.ti,ab,kf. or nmr.ti,ab,kf. or mra.ti,ab,kf. or mras.ti,ab,kf. or zeugmatograph*.ti,ab,kf. or "mr tomography".ti,ab,kf. or "mr tomographies".ti,ab,kf. or "mr tomographic".ti,ab,kf. or 'mr imag*'.ti,ab,kf. or "proton spin".ti,ab,kf. or ((magneti* or "chemical shift") and imaging).ti,ab,kf. or fmri.ti,ab,kf. or fmrис.ti,ab,kf. or rsfmri.ti,ab,kf.	1001713
4	1 and 2 and 3	233
5	limit 4 to yr="2021 -Current"	37
6	5 not (comment/ or editorial/ or letter/) not ((exp animals/ or exp models, animal/) not humans/)	36
7	meta-analysis/ or meta-analysis as topic/ or (metaanaly* or meta-analy* or metanaly*).ti,ab,kf. or systematic review/ or cochrane.jw. or (prisma or prospero).ti,ab,kf. or ((systemati* or scoping or umbrella or "structured literature") adj3 (review* or overview*)).ti,ab,kf. or (systemic* adj1 review*).ti,ab,kf. or ((systemati* or literature or database* or data-base*) adj10 search*).ti,ab,kf. or ((structured or comprehensive* or systemic*) adj3 search*).ti,ab,kf. or ((literature adj3 review*) and (search* or database* or data-base*)).ti,ab,kf. or ((data extraction" or "data source*") and "study selection").ti,ab,kf. or ("search strategy" and "selection criteria").ti,ab,kf. or ("data source*" and "data synthesis").ti,ab,kf. or (medline or pubmed or embase or cochrane).ab. or ((critical or rapid) adj2 (review* or overview* or synthes*)).ti. or (((critical* or rapid*) adj3 (review* or overview* or synthes*)) and (search* or database* or data-base*)).ab. or (metasynthes* or meta-synthes*).ti,ab,kf.	755460
8	exp clinical trial/ or randomized controlled trial/ or exp clinical trials as topic/ or randomized controlled trials as topic/ or Random Allocation/ or Double-Blind Method/ or Single-Blind Method/ or (clinical trial, phase i or clinical trial, phase ii or clinical trial, phase iii or clinical trial, phase iv or controlled clinical trial or randomized controlled trial or multicenter study or clinical trial).pt. or random*.ti,ab. or (clinic* adj trial*).tw. or ((singl* or doubl* or treb* or tripl*) adj (blind\$3 or mask\$3)).tw. or Placebos/ or placebo*.tw.	2743170
9	Epidemiologic studies/ or case control studies/ or exp cohort studies/ or Controlled Before-After Studies/ or Case control.tw. or cohort.tw. or Cohort analy\$.tw. or (Follow up adj (study or studies)).tw. or (observational adj (study or studies)).tw. or Longitudinal.tw. or Retrospective*.tw. or prospective*.tw. or consecutive*.tw. or Cross sectional.tw. or Cross-sectional studies/ or historically controlled study/ or interrupted time series analysis/ [Onder exp cohort studies vallen ook longitudinale, prospectieve en retrospectieve studies]	4760327
10	Case-control Studies/ or clinical trial, phase ii/ or clinical trial, phase iii/ or clinical trial, phase iv/ or comparative study/ or control groups/ or controlled before-after studies/ or controlled clinical trial/ or double-blind method/ or historically controlled study/ or matched-pair analysis/ or single-blind method/ or (((control or controlled) adj6 (study or studies or trial)) or (compar* adj (study or studies)) or ((control or controlled) adj1 active) or "open label*" or ((double or two or three or multi or trial) adj (arm or arms)) or (allocat* adj10 (arm or arms)) or placebo* or "sham-control*" or ((single or double or triple or assessor) adj1 (blind* or masked)) or nonrandom* or "non-random*" or "quasi-experiment*" or "parallel group*" or "factorial trial" or "pretest posttest" or (phase adj5 (study or trial)) or (case* adj6 (matched or control*)) or (match* adj6 (pair or pairs or cohort* or control* or group* or healthy or age or sex or gender or patient* or subject* or participant*)) or (propensity adj6 (scor* or match*))).ti,ab,kf. or (confounding adj6 adjust*).ti,ab. or (versus or vs or compar*).ti. or ((exp cohort studies/ or epidemiologic studies/ or multicenter study/ or observational study/ or seroepidemiologic studies/ or (cohort* or 'follow up' or followup or longitudinal* or prospective* or retrospective* or observational* or multicent* or 'multi-cent*' or consecutive*).ti,ab,kf.) and ((group or groups or subgroup* or versus or vs or	5722239

	compar*).ti,ab,kf. or ('odds ratio*' or 'relative odds' or 'risk ratio*' or 'relative risk*' or aor or arr or rrr).ab. or (("OR" or "RR") adj6 CI).ab.))	
11	6 and 7 <b>-SR's</b>	3
12	(6 and 8) not 11 <b>-RCT's</b>	1
13	(6 and (9 or 10)) not (11 or 12) <b>-Observationele studies</b>	12
14	11 or 12 or 13	16