

Literaturauswahl

Tryptophan-Immunadsorption bei neurologischen Erkrankungen

Multiple Sklerose

- **Pfeuffer et al.** Immunoadsorption versus double-dose methylprednisolone in refractory multiple sclerosis relapses. *J Neuroinflammation* 2022; 19:220 [open access](#)
- **Schimrigk et al.** Escalation therapy of steroid refractory multiple sclerosis relapse with tryptophan immunoadsorption – observational multicenter study with 147 patients. *Eur Neurol* 2016; 75:300-306
- **Heigl et al.** Immunoadsorption in steroid-refractory multiple sclerosis: Clinical experience in 60 patients. *Atheroscler Suppl* 2013; 4:167-173
- **Koziolek et al.** Immunoadsorption therapy in patients with multiple sclerosis with steroid-refractory optical neuritis. *Journal of Neuroinflammation* 2012; 9:80 [open access](#)
- **Trebst et al.** Immunoadsorption therapy for steroid-unresponsive relapses in patients with multiple sclerosis. *Blood Purif* 2012; 33:1-6
- **Mauch et al.** Immunadsorption bei steroidrefraktärem Schub der Multiplen Sklerose. *Nervenarzt* 2011; 82:1590-1595

Schwangerschaft und Stillphase

- **Hoffmann et al.** Tryptophan immunoadsorption during pregnancy and breastfeeding in patients with acute relapse of multiple sclerosis and neuromyelitis optica. *Ther Adv Neurol Disord* 2018; 11:1-12 [open access](#)
- **Hoffmann et al.** Tryptophan-Immunadsorption bei Multipler Sklerose und Neuromyelitis optica. Therapieoption bei akuten Schüben in der Schwangerschaft und Stillphase. *Nervenarzt* 2015; 86:179-186

Kinder

- **Koziolek et al.** Therapeutic apheresis in pediatric patients with acute CNS inflammatory demyelinating disease. *Blood Purif* 2013; 36:92-97

Neuromyelitis optica Spectrum Erkrankungen (NMOSD)

- **Heigl et al.** Immunoadsorption as maintenance therapy for refractory neuromyelitis optica spectrum disorder. *Ther Adv Neurol Disord* 2023; 16:1-12 [open access](#)
- **Liu et al.** A prospective study on tryptophan immunoadsorption in AQP4 antibody-positive neuromyelitis optica spectrum disorders. *J Clin Apher* 2022;1-8
- **Kleiter et al.** Apheresis therapies for NMOSD attacks. *Neurol Neuroimmunol Neuroinflamm* 2018; e504. Doi:10.1212 /NXI.0000000000000504 [open access](#)
- **Kleiter et al.** Neuromyelitis optica: evaluation of 871 attacks and 1.153 treatment courses. *Ann Neurol* 2016; 79(2):206-216
- **Faissner et al.** Immunoadsorption in patients with neuromyelitis optica spectrum disorders. *Ther Adv Neurol Disord* 2016; 4:281-286 [open access](#)
- **Kobayashi et al.** Immunoadsorption therapy for neuromyelitis optica spectrum disorders long after the acute phase. *J Clin Apher* 2015;30(1):43-45

Autoimmune Enzephalitis

- **Dogan Onugoren et al.** Immunoadsorption therapy in autoimmune encephalitis. *Neurol Neuroimmunol Neuroinflamm* 2016; 3(2): e207 [open access](#)
- **Heine et al.** Immunoadsorption or plasma exchange in the treatment of autoimmune encephalitis: a pilot study. *J Neurol* 2016; DOI 10.1007/s0041-016-8277-y
- **Köhler et al.** Tryptophan immunoadsorption for the treatment of autoimmune encephalitis. *Eur J Neurol* 2015; 22:203-206
- **Ehrlich et al.** Therapeutische Apherese bei autoimmuner Enzephalitis – Eine bundesweite Datenerhebung. *Nervenarzt* 2013; 84:498-507
- **Fassbender et al.** Immunoadsorption for autoimmune encephalitis. *Atheroscler Suppl* 2017; 30:257-263

CIDP

- **Galldiks et al.** Immunoadsorption in patients with chronic inflammatory demyelinating polyradiculoneuropathy with unsatisfactory response to first-line treatment. *Eur Neurol* 2011; 66:183-189
- **Lieker et al.** A prospective study comparing tryptophan immunoadsorption with therapeutic plasma exchange for the treatment of chronic inflammatory demyelinating polyneuropathy. *J Clin Apher* 2017; 32(6):486-493

Guillain-Barré-Syndrom

- **Arakawa et al.** Immunoadsorption therapy for a child with Guillain-Barré syndrome subsequent to Mycoplasma infection: a case study. *Brain & Development* 2005; 431-433
- **Galldiks et al.** Selective immune adsorption treatment of severe Guillain Barré syndrome in the intensive care unit. *Neurocrit Care* 2009; 11 (3): 317-32.
- **Jimenez et al.** Adsorption therapy with tryptophan-conjugated polyvinyl alcohol gels in 10 patients with acute Guillain-Barré syndrome. *Transfus Sci* 1992; 14:9-11
- **Okamiya et al.** Tryptophan-immobilized column-based immunoadsorption as the choice method for plasmapheresis in Guillain-Barré syndrome. *Ther Apher Dial* 2004 8:248-253
- **Seta et al.** Factors influencing outcome in Guillain-Barré syndrome: comparison of plasma adsorption against other treatments. *Clin Neurol Neurosurg* 2005; 107: 491-496

Literaturauswahl

Tryptophan-Immunoabsorption bei neurologischen Erkrankungen

Myasthenia gravis

- **Dahhan F & Behnke S.** Langzeitimmunoabsorption nach myasthener Krise in der Schwangerschaft. P23 Journal für Anästhesie und Intensivbehandlung 1/2020
- **Schneider-Gold et al.** Immunoabsorption versus plasma exchange versus combination for treatment of myasthenic deterioration. Ther Adv Neurol Disord 2016; 4:297-303 [open access](#)
- **Köhler et al.** A randomised and controlled clinical study comparing immunoabsorption and plasma exchange in myasthenic crisis. J Clin Apher 2011; 26:347-355
- **Wagner et al.** Langzeitbehandlung der therapierefraktären Myasthenia gravis mittels Immunoabsorption, Dtsch Med. Wochenschr 2008; 133: 2377-2382
- **Grob et al.** Treatment of myasthenia gravis by immunoabsorption of plasma. Neurology 1995; 45:338-344

Lambert-Eaton Syndrom

- **Sauter et al.** A case report of the efficient reduction of calcium channel antibodies by tryptophan ligand immunoabsorption in a patient with Lambert-Eaton syndrome. Ther Apher Dial 2010; 14(3):364-367

Langzeittherapie: Wirksamkeit und Verträglichkeit

- **Heigl et al.** Immunoabsorption as maintenance therapy for refractory neuromyelitis optica spectrum disorder. Ther Adv Neurol Disord 2023; 16:1-12 [open access](#)
- **Galdiks et al.** Immunoabsorption in patients with chronic inflammatory demyelinating polyradiculoneuropathy with unsatisfactory response to first-line treatment. Eur Neurol 2011; 66:183-189
- **Dahhan F & Behnke S.** Langzeitimmunoabsorption nach myasthener Krise in der Schwangerschaft. P23 Journal für Anästhesie und Intensivbehandlung 1/2020
- **Wagner et al.** Langzeitbehandlung der therapierefraktären Myasthenia gravis mittels Immunoabsorption, Dtsch Med. Wochenschr 2008;133: 2377-2382

Vorteile Tryptophan-Immunoabsorption versus Plasmaaustausch

- **Boedecker et al.** Immunoabsorption and plasma exchange – efficient treatment options for neurological autoimmune diseases. J Clin. Apher 2022;37: 70-81
- **Taylan et al.** Safety of therapeutic apheresis in children and adolescents. Frontiers in Pediatrics 2022; 10:850819 [open access](#)
- **Boss et al.** Severe and long-lasting alterations of albumin redox state by plasmapheresis. Sci Rep 2022 12(1):12165 [open access](#)
- **Klingele M et al.** Therapeutic apheresis within immune-mediated neurological disorders: dosing and its effectiveness. Scientific reports 2020; 10:7925 [open access](#)
- **Koessler et al.** The effect of immunoabsorption with the immusorba TR-350 on coagulation compared to plasma exchange. Vox Sanguinis 2015; 108:46-21
- **Köhler et al.** A randomised and controlled clinical study comparing immunoabsorption and plasma exchange in myasthenic crisis. J Clin Apher 2011; 26:347-355
- **Schneider-Gold et al.** Immunoabsorption versus plasma exchange versus combination for treatment of myasthenic deterioration. Ther Adv Neurol Disord 2016; 4:297-303 [open access](#)

Leitlinien und Standards

- **Laura Connelly-Smith et al.** Guidelines on the Use of Therapeutic Apheresis in Clinical Practice – Evidence-Based Approach from the Writing Committee of the American Society for Apheresis: The Ninth Special Issue. J Clin Apher 2023; 38(2):77-278. doi: 10.1002/jca.22043.
- **Hemmer et al.** Diagnose und Therapie der Multiplen Sklerose, Neuromyelitis-optica-Spektrum-Erkrankungen und MOG-IgG-assoziierten Erkrankungen 2021. <https://www.dgn.org/leitlinien>
- **Köhler et al.** Konsensuspapier zum Einsatz der therapeutischen Apherese in der Neurologie. DGNeurologie 2019; 1:15-33
- **Schettler et al.** Standard der Therapeutischen Apherese 2023 der Deutschen Gesellschaft für Nephrologie e.V. in Zusammenarbeit mit der Gesellschaft für pädiatrische Nephrologie e.V. <https://www.dgfn.eu/apherese-standard.html>
- **Sommer et al.** Therapie akuter und chronischer immunvermittelter Neuropathien und Neuritiden 2018. <https://www.dgn.org/leitlinien>
- **Wiendl et al.** Diagnostik und Therapie myasthener Syndrome 2023. <https://www.dgn.org/leitlinien>

