

Neue Literaturhinweise auf Titan- Grade 5 - Unverträglichkeit:

Geng DC, Zhu XS, Mao HQ, Meng B, Chen L, Yang HL, Xu YZ.

- Thema: Protection against titanium particle-induced osteoclastogenesis by cyclooxygenase-2 selective inhibitor.
- Magazin: J Biomed Mater Res A. 2011 Dec 15;99(4):516-22. doi: 10.1002/jbm.a.33197. Epub 2011 Sep 13.
- Kernaussage: Cox-2 Hemmer scheinen ein wirkungsvoller Ansatz gegen die osteoklastische Aktivität verursacht durch Titanabrieb zu sein.

Haleem-Smith H, Argintar E, Bush C, Hampton D, Postma WF, Chen FH, Rimington T, Lamb J, Tuan RS.

- Thema: Biological responses of human mesenchymal stem cells to titanium wear debris particles.
- Magazin: J Orthop Res. 2011 Nov 14. doi: 10.1002/jor.22002. [Epub ahead of print]
- Kernaussage: Mesenchymale Stammzellen reagieren sensibel auf die Anwesenheit von Titanpartikeln, was Einfluss auf die Osteolyse rund um Implantate hat.

Kang CM, Jang AS, Ahn MH, Shin JA, Kim JH, Choi YS, Rhim TY, Park CS

- Thema: Interleukin-25 and interleukin-13 production by alveolar macrophages in response to particles
- Magazin: Am J Respir Cell Mol Biol. 2005 Sep;33(3):290-6. Epub 2005 Jun 16
- Kernaussage: alveolar macrophages play an important role in particle-induced lung inflammation via direct induction of IL-13 and IL-25 production

Mine Y, Makihira S, Nikawa H, Murata H, Hosokawa R, Hiyama A, Mimura S

- Thema: Impact of titanium ions on osteoblast-, osteoclast- and gingival epithelial-like cells
- Magazin: J Prosthodont Res. 2010 Jan;54(1):1-6. Epub 2009 Sep 4
- Kernaussage: Ti ions show the biological effects, both on the viabilities of osteoblast and osteoclast and on the differentiation of either the osteoblastic or osteoclastic cells, which may influence the prognosis of dental implants

Minematsu H, Shin MJ, Celil Aydemir AB, Seo SW, Kim DW, Blaine TA, Macián F, Yang J, Young-In Lee

- Thema: Orthopedic implant particle-induced tumor necrosis factor-alpha production in macrophagemonocyte lineage cells is mediated by nuclear factor of activated T cells
- Magazin: Ann N Y Acad Sci. 2007;1117:143-50
- Kernaussage: treatment with titanium nanoparticles increased TNF-alpha gene expression along with TNF-alpha protein secretion in murine macrophage-like RAW264.7

Müller K, Valentine-Thon E

- Thema: Hypersensitivity to titanium: clinical and laboratory evidence
- Magazin: Neuro Endocrinol Lett. 2006 Dec;27 Suppl 1:31-5
- Kernaussage: titanium can induce clinically-relevant hypersensitivity in a subgroup of patients chronically exposed via dental or endoprosthetic implants

Nakashima A, Sun D-H, Trindade MCD

- Thema: Signaling Pathways for Tumor Necrosis Factor- α and Interleukin-6 Expression in Human Macrophages Exposed to Titanium-Alloy Particulate Debris in Vitro*
- Magazin: The Journal of Bone and Joint Surgery 81:603-15 (1999)
- Kernaussage: particles incite the release of proinflammatory cytokines from macrophages in the absence of phagocytosis

Sicilia A, Cuesta S, Coma G, Arregui I, Guisasola C, Ruiz E, Maestro A

- Thema: Titanallergie bei Zahnimplantatpatienten: eine klinische Studie mit 1500 konsekutiven Patienten
- Magazin: Clin Oral Implants Res. 2008 Aug;19(8):823-35
- Kernaussage: Ein signifikant höheres Risiko der positiv allergischen Reaktion wurde bei jenen Patienten festgestellt, die eine post-operative allergiekompatible Antwort (ACRG) zeigten

Stefan F. Martin

- Thema: T Lymphocyte-Mediated Immune Responses to Chemical Haptens and Metal Ions: Implications for Allergic and Autoimmune Disease
- Magazin: Int Arch Allergy Immunol 2004;134:186-198
- Kernaussage: Grundlagenwissen

Sterner T, Schütze N, Saxler G, Jakob F, Rader CP

- Thema: Effects of clinically relevant alumina ceramic, zirconia ceramic and titanium particles of different sizes and concentrations on TNF- α release in a human macrophage cell line
- Magazin: Biomed Tech. 2004;49:340-4.
- Kernaussage: Ti provoked a significant higher TNF α response

Taira M, Kagiya T, Harada H, Sasaki M, Kimura S, Narushima T, Nezu T, Araki Y

- Thema: Microscopic observations and inflammatory cytokine productions of human macrophage phagocytosing submicron titanium particles
- Magazin: J Mater Sci Mater Med. 2010 Jan;21(1):267-75. Epub 2009 Jul 31
- Kernaussage: submicron Ti particles and LPS activation independently and synergistically caused the macrophages to produce three inflammatory cytokines (TNF- α , IL-1 β and IL-6) at high levels in the culture supernatants

Taira M, Nezu T, Sasaki M, Kimura S, Kagiya T, Harada H, Narushima T, Araki Y

- Thema: Gene expression analyses of human macrophage phagocytizing sub-micro titanium particles by allergy DNA chip (Genopal)
- Magazin: Biomed Mater Eng. 2009;19(1):63-70
- Kernaussage: Ti particles induces moderate inflammation with its degree less than LPS, but phagocytosis of sub-micro Ti particles has the potential to worsen inflammation caused by LPS-stimulated macrophages.

Thiersea HJ, Gamedingera K et al.

- Thema: T cell receptor (TCR) interaction with haptens: metal ions as non-classical haptens
- Magazin: Toxicology Volume 209, Issue 2, 15 April 2005, Pages 101-107
- Kernaussage: Grundlagenwissen

Vallés G, Gil-Garay E, Munuera L, Vilaboa N

- Thema: Modulation of the cross-talk between macrophages and osteoblasts by titanium-based particles
- Magazin: Biomaterials. 2008 May;29(15):2326-35. Epub 2008 Mar 3
- Kernaussage: interactions of osteoblasts with particles can modulate the extent of the response initiated by macrophages

Vallés G, González-Melendi P, González-Carrasco JL, Saldaña L, Sánchez-Sabaté E, Munuera L, Vilaboa N

- Thema: Differential inflammatory macrophage response to rutile and titanium particles
- Magazin: Biomaterials. 2006;27:5199-211
- Kernaussage: Treatment of THP-1 cells with rutile particles stimulated the release of TNF-alpha, IL-6 and IL-1beta to a lesser extent than titanium

Voggenreiter G, Leiting S, Brauer H, Leiting P, Majetschak M, Bardenheuer M, Obertacke U

- Thema: Immuno-inflammatory tissue reaction to stainless-steel and titanium plates used for internal fixation of long bones
- Magazin: Biomaterials. 2003 Jan;24(2):247-54
- Kernaussage: presence of a marked inflammation and tissue reaction in the soft tissue covering stainless-steel and titanium plates

von Baehr V

- Thema: Titanunverträglichkeit
- Magazin: Stand der Labordiagnostik für zahnmedizinische Fragestellungen, IMD Berlin
- Kernaussage: Review und Zusammenfassung