



„Tattoo schön, Patient krank“

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Unter Tätowieren versteht man das künstliche Einbringen von **Farbstoffpigmenten** mittels Nadeln in die Lederhaut (Corium).

Dieser Anteil der Haut liegt zwischen der Epidermis und der Subkutis, ist über das Stratum papillare eng mit der Oberhaut verbunden und enthält u.a. **kleine und größere Blutgefäße**.

Hyg Med 2010, 35: 421-427

Schon in der Steinzeit gab es Tattoos

•1991: Ötzi, der Gletschermensch aus der Steinzeit - bei ihm fand man Tätowierungen! An der Hautoberfläche wurden insgesamt 47 strichförmige Tätowierungen gezählt, die in 15 Strichgruppen zusammengefasst sind. Diese Tätowierungen liegen nicht nur mit Sicherheit an klassischen Akupunkturpunkten, sondern erinnern technisch an eine konstitutionelle, antirheumatische Therapie.

•Nachdem die ältesten Nachweise einer Akupunktur Anwendung in China aus dem 2. Jahrhundert v. Chr. stammen, Ötzi aus dem Eis aber schon 5200 Jahren vorher gelebt hat.

17 Jhdt. Polynesien: In erster Linie war es nötig, geschlechtsreife Mädchen zu kennzeichnen - zu tätowieren.



2011 Fazit: Tätowierungen waren, sind und bleiben eine Kunst, die sich immer noch frisch und interessant zeigt. Nicht für jeden, aber für viele.

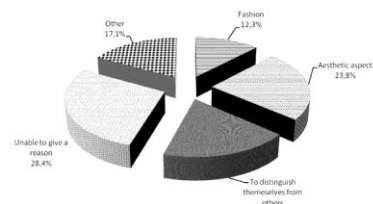
<http://www.tattoo-berater-online.de>



In Deutschland sind ca. 10 % der Bevölkerung tätowiert, das sind ca. 8 Mio Personen. Insgesamt wurden somit ca. 20 Mio Tätowiervorgänge in Deutschland erbracht.

Hyg Med 2010, 35: 421-427

Reasons for making a body art. Others include: to emulate a familiar (3.1%); to better integrate in the society (4.5%); to feel better (6.5%), to better health conditions (0.6%); to follow a very important person (2.4%)



Quaranta et al. BMC Public Health 2011, 11:774

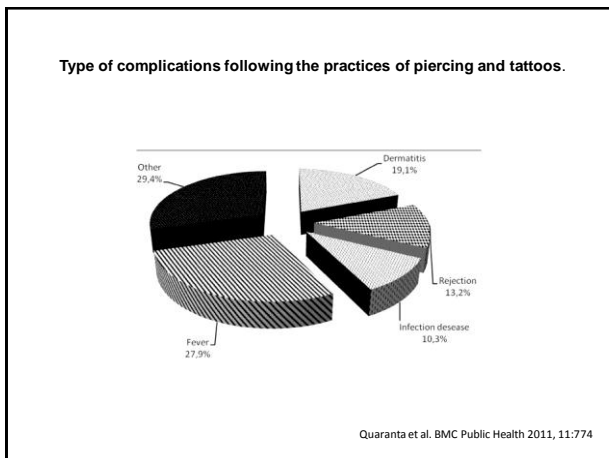
Questions	Yes N* (%)	No N* (%)	Do not Know N* (%)	Tot N*
Is it risky undergoing piercing/tattooing?	1.251 (78.3%)	197 (12.3%)	150 (9.4%)	1.598
Can tattoos and piercing transmit infectious disease?	1.440 (90.1%)	48 (3.0%)	110 (6.9%)	1.598
Can tattoos and piercing transmit non-infectious disease?	1.040 (65.1%)	109 (6.8%)	449 (28.1%)	1.598
Are the places and instruments used for body art always safe in terms of health and hygiene?	114 (7.1%)	1.315 (82.3%)	169 (10.6%)	1.598
Is it possible to remove the tattoo?	1.395 (87.3%)	107 (6.7%)	96 (6.0%)	1.598
Is the piercing a permanent practice?	1.416 (88.6%)	62 (3.9%)	120 (7.5%)	1.598

Quaranta et al. BMC Public Health 2011, 11:774



.....Durch die Tatsache, dass die beim Tätowieren genutzten Nadeln mit der Blutbahn in Berührung kommen, ergibt sich ein Infektionsrisiko für blutübertragbare Viren, auch bakterielle Infektionen sind möglich.

Hyg Med 2010, 35: 421-427



INFECTIVE COMPLICATIONS OF TATTOOING AND SKIN PIERCING

Ahmed Messahel, Brian Musgrove

Journal of Infection and Public Health 2009, 2: 7-13



Tattoo *{tat-too} noun*
A permanent picture, design, or other markings made on the skin by pricking it with a sharp implement and staining it with indelible dye.

Skin piercing *{peersing} adjective*
The practice of piercing holes in parts of the body so that rings or studs can be inserted for cultural, fashion, or sexual purposes (skin piercing = body piercing)

Journal of Infection and Public Health 2009, 2: 7-13



Infectious complications of skin piercing:

- Bacterial infections
- Viral infections

Infectious complications of tattoos:

- Bacterial infections
- Viral infections
- Fungal infections
- Prions (?)

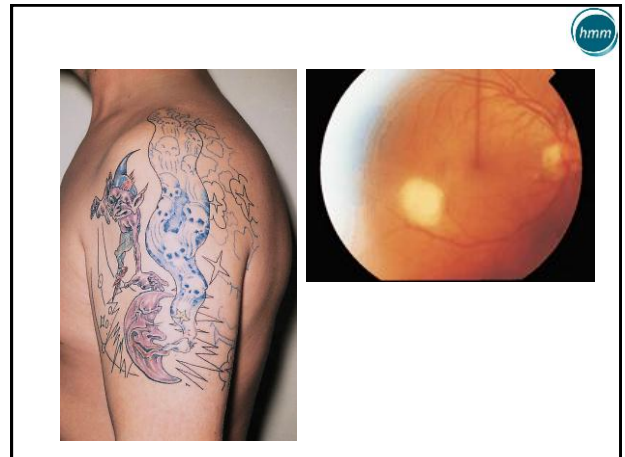
Journal of Infection and Public Health 2009, 2: 7-13

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Dermatological disorders and complications after tattooing

Etiologic factors	Clinical appearance	Onset of symptoms	Commentary
Trauma	Inflammatory reaction caused by process of tattooing	Immediately (after few hours)	Always appears, but degree of expression is different
Skin infections			
1. Superficial skin infections	<ul style="list-style-type: none"> • Impetigo contagiosa • Ecthyma • Acne varioliformis 	First few days	Usually located in tattooed area and caused by unsterile instruments
2. Deep skin infections	<ul style="list-style-type: none"> • Erysipelas • Cellulitis • Gangrene • Sepsis 		
Particularly dangerous infections	<ul style="list-style-type: none"> • Tetanus • Chancroid • Tuberculosis cutis • Leprosy • Syphilis 	Different incubation period - from weeks to years	Many cases date back to 19 th and 20 th century
Viral infections	<ul style="list-style-type: none"> • Varicella vulgaris • Molluscum contagiosum • Hepatitis B, C • AIDS 	Incubation period - weeks to months	Only few case presentations
Mycoses	<ul style="list-style-type: none"> • Zygomycoses • Tinea cutis glabrae 	After years After weeks	Single cases Single cases

J. Kazandjieva, N. Tsankov (2007) Clin Dermatol 25, 375-382



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Candida Endophthalmitis After Tattooing in an Asplenic Patient

Arch Ophthalmol 120, 518-519 (2002)

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CASE REPORT: Cutaneous zygomycosis - Necrotising fasciitis due to *Saksenaeva vasiformis*

Saksenaeva vasiformis is an emerging human pathogen, most often associated with cutaneous or subcutaneous lesions following trauma. This is the report of a case of subcutaneous zygomycosis from which *Saksenaeva vasiformis* was isolated on culture. As the patient developed acute interstitial nephritis, amphotericin B could not be administered in full dose. Surgical debridement was carried out, but the patient deteriorated gradually and died. To the best of our knowledge, this is the first reported case of Zygomycosis due to *Saksenaeva vasiformis* from Visakhapatnam.

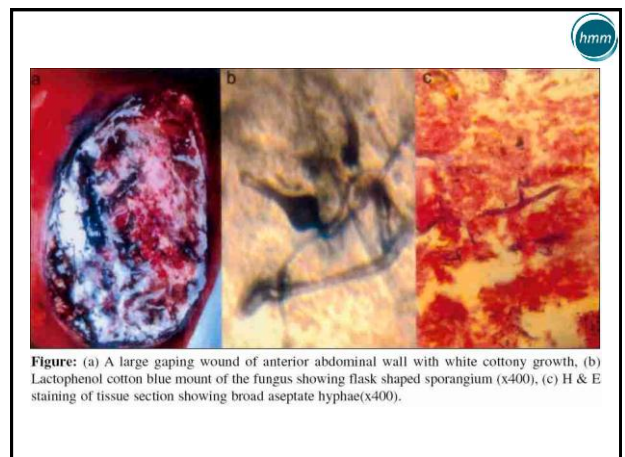
Indian J Med Microbiol 2006, 24: 58-60

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A rare complication of ear piercing: a case of subcutaneous phaeohiphomycosis caused by *Veronaea botryosa* in China

Our case is the first report of *V. botryosa* infection associated with a cosmetic procedure, which suggests that skin piercing could precipitate *V. botryosa* or other dematiaceous, as well as opportunistic fungal infections.

Medical Mycology 2010, Sept. 21 [ahead of publication]



Occupation, Lifestyle, Diet, and Invasive Fungal Infections

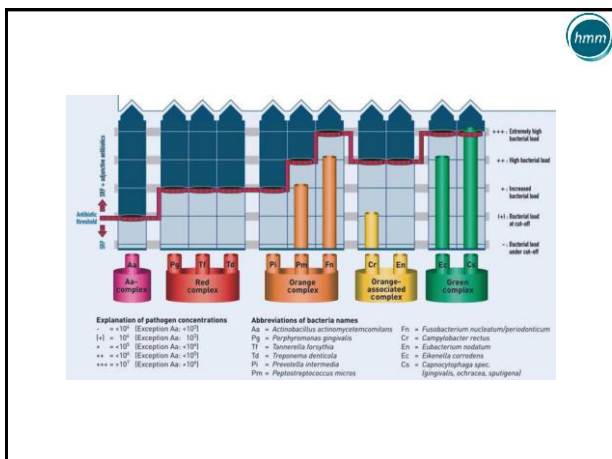
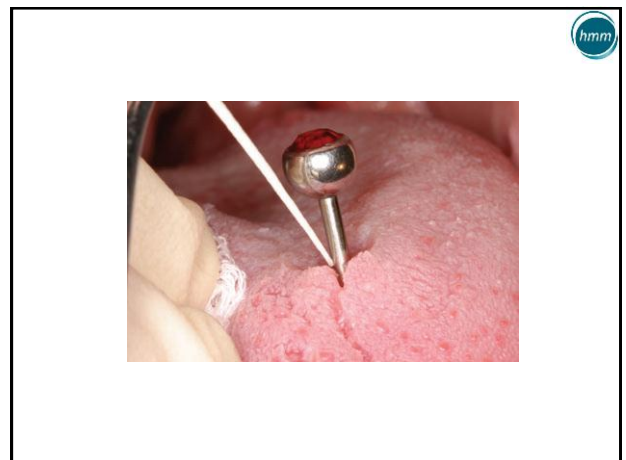
Infection 2008, 36: 515-525

Lifestyle/hobby	IFI
Pet ownership	
Cats	Sporotrichosis
Dogs	Blastomycosis
Cockatoos and magpies	Chronic cutaneous mycoses
Pigeons	Cryptococcosis
	Histoplasmosis
	Cryptococcosis
Gardening	Sporotrichosis
	Blastomycosis
	Aspergillus
	<i>Scedosporium</i> infection
Cave exploration	Histoplasmosis
Camping along waterways	Blastomycosis
	Gastrointestinal basidiobolomycosis
Hunting and fishing	Blastomycosis
Smoking	Coccidioidomycosis
	Paracoccidioidomycosis
	Gastrointestinal basidiobolomycosis
	Cryptococcosis
Marijuana use	Aspergillus
	Penicilliosis
Alcohol abuse	Cryptococcosis
	Invasive aspergillosis
	Candidiasis
Intravenous drug abuse	Systemic candidiasis
	Aspergillus
	Zygomycosis
Body piercing	Aspergillus
Tattooing	Zygomycosis
	Candida endophthalmitis

Microbiological findings at tongue piercing sites - implications to oral health


Tongue piercing provides a potential reservoir for periodontopathogenic bacteria.

Int J Dent Hygiene 7, 256-262 (2009)



Piercing of the tongue was found to be a risk factor for colonization of *Candida albicans*, without an influence of whether or not an ornament is in place.

Oral Diseases (2010) 16: 172-175



An outbreak of *Mycobacterium chelonae* infections in tattoos
J Am Acad Dermatol. 2010

Physicians should consider mycobacterial infections in patients with skin findings within a new tattoo.

Methicillin-resistant *Staphylococcus aureus* skin infections among tattoo recipients – Ohio, Kentucky, and Vermont, 2004–2005.

Outbreaks of CA-MRSA have occurred among athletes, inmates at correctional facilities, and military recruits. This report summarizes investigations of six unlinked clusters of skin and soft tissue infections caused by CA-MRSA among 44 recipients of tattoos from 13 unlicensed tattooists in three states (Ohio, Kentucky, and Vermont); use of nonsterile equipment and suboptimal infection-control practices were identified as potential causes of the infections. Clinicians should consider CA-MRSA in their differential diagnosis for staphylococcus diseases, including skin infections. MRSA infections should be added to education and prevention campaigns highlighting the risks of unlicensed tattooing.

MMWR Morb Mortal Wkly Rep. 2006 Jun 23;55(24):677-9

Eur J Epidemiol. 2008;18(5):441-9.
Tattooing and transfusion-transmitted diseases in Brazil: a hospital-based cross-sectional matched study.
[de Nishioka SA](#), [Gyorkos TW](#), [Joseph L](#), [Collet JP](#), [MacLean JD](#).
Department of Epidemiology and Biostatistics, McGill University, Montreal, Canada.

Abstract
BACKGROUND: Presence of tattoos has been a criterion for temporary deferral of blood donors. Scientific evidence remains equivocal regarding the association between tattooing and transfusion-transmitted diseases (TTDs).
METHODS: A cross-sectional matched study was undertaken among adults attending a Brazilian hospital and blood bank. The exposure of interest was having at least one permanent tattoo, and the outcomes were the presence of serological markers for the following TTDs: hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV) infections, syphilis, and Chagas' disease. Exposed and unexposed subjects were matched on age, sex, and main clinical complaint. Associations were assessed by odds ratios (ORs), adjusted for confounders by unconditional logistic regression.
FINDINGS: The study recruited 345 subjects, 182 with tattoos. Having a tattoo was associated with HIV (OR: 6.41; 95% confidence interval (CI) 1.29, 31.84), and with having at least one positive test for any TTD (OR: 2.05; 95% CI: 1.11, 3.81). No statistically significant associations were found between tattooing and HBV or HIV infection, syphilis or Chagas' disease, but these results are inconclusive given the large CI obtained.
INTERPRETATION: Having a tattoo is not an important indicator for testing positive for a TTD, except for HIV infection. Taking into consideration the increasing prevalence of tattooing in the general population, the absolute need of a safe and sustainable blood supply and optimization of the cost-effectiveness of screening blood donors, further research on tattoos is urgently required.

Am J Infect Control. 2010 Mar;38(2):121-9. Epub 2009 Oct 12.
Body art practices among inmates: Implications for transmission of bloodborne infections.
[Abiona TC](#), [Balogun JA](#), [Adefuye AS](#), [Sloan PE](#).
HIV/AIDS Research and Policy Institute, Chicago State University, IL 60628, USA. tabiona@csu.edu

Tattooing and body piercing practices exist in prison and **could constitute risks** for transmission of bloodborne viral infections. Interventions to reduce these risks are discussed.

Es besteht zwar ein theoretisches Risiko der Übertragung blutübertragbarer Viren und Pilzen und Bakterien durch den Tätowiervorgang, dieses Risiko kann jedoch nach heutigem Wissensstand nicht mit Zahlen belegt werden.

Hyg Med 2010, 35: 421-427

Herzlichen Dank für die Aufmerksamkeit!