



Allergology & Immunology Update 2026

Workshop Dermato-Allergology
Tattoo and Allergy

Universitätsspital Basel
Ente Ospedaliero Cantonale - EOC
Dr. Riccardo Curatolo
23. - 24.01.2026



AI generated



Universitätsspital
Basel

Case Report

- 04.04.2024 Getting the tattoo done by her well-known tattoo artist, who has already done over 50 tattoos for her
- As usual, the numbing «Pain Free» cream was applied beforehand
- This time, however, she noticed an unusually strong local reaction with slight blistering as soon as she started tattooing
- 10.04.2024 Emergency Room (Kantonsspital Baselland Liestal): per os co-amoxicillin 3g/day for erysipelas
- 12.04.2024 No improvement → Walk-In Clinic of the dermatology clinic, Universitätsspital Basel



Case Report – 12.04.2024



Case Report – 12.04.2024



Case Report – 04.04.2024



Case Report – Therapy

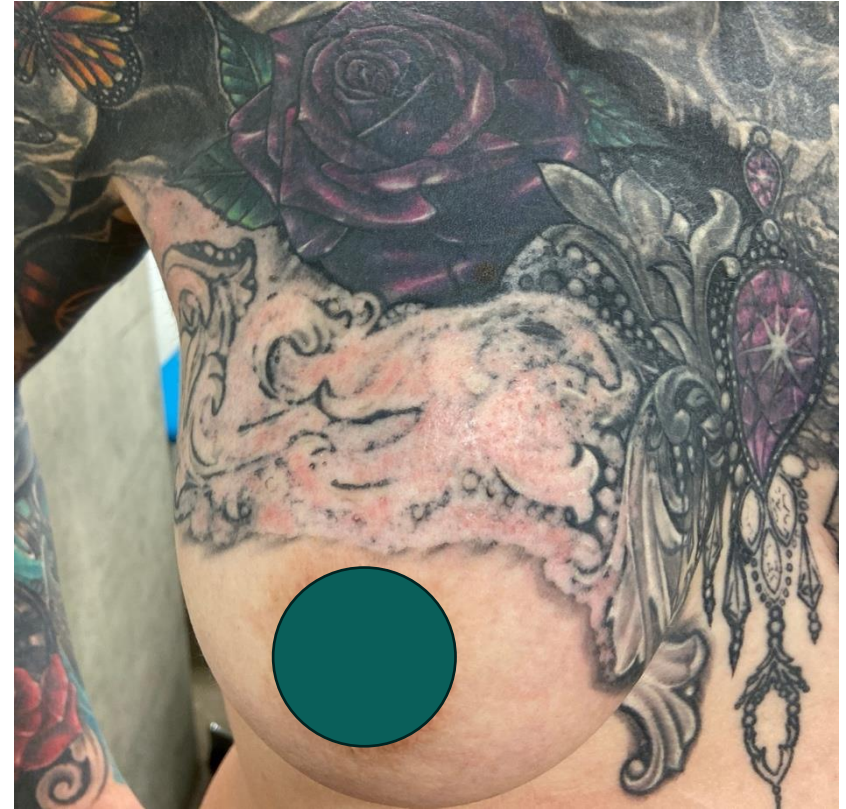
- 12.04.2024 – 16.04.2024 Inpatient admission at the University Hospital of Basel
 - bacterial swab
 - intravenous co-amoxicillin (3x2.2g)
 - topical disinfection with Octenisept compresses
 - application of Fucicort cream (betamethasone with fusidic acid) once per day
 - adequate pain management

Case Report – 13.04.2024



Case Report – Allergy Work up

- Patch Testing:
 - Standard
 - Disinfection
 - External agents
 - Local anaesthetics
 - Tattooing agents
 - Tattoo ink «Extreme Advanced Tattoo Ink, Extra Black»



Case Report – Allergy Work up

Epicutanteste Tätowiermittel (47)

Nr.	Substanz	Konz. %	Veh.	Firma / Hersteller	Tag 2	Tag 3	Tag 8
1	o-Phenylphenol	1.0	pet.	Chemo-technique	—	—	—
2	Eisen(II)-sulfat	5.0	"	allergEAZE	?	—	—
3	Kupfer(II)-sulfat, 5*H2O	1.0	aq.	allergEAZE	—	—	—
4	Quecksilber(II)-amidchlorid	1.0	pet.	allergEAZE	+	++	+
5	Aluminium(III)-chloride hexahydrate	2.0	"	Chemo-technique	—	—	—
6	Ethylacrylat	0.1	"	allergEAZE	—	—	—
7	Methylmethacrylat	2.0	"	allergEAZE	?	—	—
8	Butylacrylat	0.1	"	allergEAZE	?	—	—
9	Propylenglycol	20.0	"	allergEAZE	—	—	—
10	Polyethylenglycol-400		as is	allergEAZE	—	—	—



Case Report – Allergy Work up

Nr.	Substanz	Konz. %	Veh.	Firma / Hersteller	Tag 2	Tag 3	Tag 8
12	Triethanolamin (TEA) (Trolamin)	2.5	pet.	allergEAZE	—	—	—
13	Ammoniumpersulfat	2.5	"	allergEAZE	?	—	—
14	Glutaraldehyd	0.3	"	allergEAZE	—	—	—
15	Glyoxal Trimer (Dihydrat)	1.0	"	allergEAZE	—	—	—
16	Benzalkoniumchlorid	0.1	"	allergEAZE	?	—	—
17	2-Phenoxyethanol	1.0	"	allergEAZE	—	—	—
18	p-Phenylendiamin (freie Base) (CI 76060)	1.0	"	allergEAZE	—	—	—
19	Naphthol AS (CI 37505)	1.0	"	allergEAZE	?	—	—
20	Abietinsäure	10.0	"	allergEAZE	—	—	—
21	Tetracain-HCl (Amethocain)	1.0	"	allergEAZE	?	—	—
22	Lidocain-HCl	15.0	"	Chemo-technique	—	—	—
23	Benzocain (Ethylaminobenzoat)	5.0	"	allergEAZE	—	—	—
24	Dispers Orange 3 (cl 11005)	1.0	"	Chemo-technique	+	—	—
25	Dispers Gelb 3 (cl 11855)	1.0	"	Chemo-technique	+	—	—

Case Report – Allergy Work up

					Tag 2	Tag 3						Tag 2	Tag 3	
1	Kaliumdichromat	0.5	pet.	allergEAZE	—	—	16	2-Hydroxyethylmethacrylat (HEMA)	1	"	allergEAZE	—	—	
2	Thiuram-Mix	1	"	allergEAZE	—	—	17	(Chlor)-methylisothiazolon (MCI/MI)	100 ppm	aq.	allergEAZE	?	—	
3	Kobalt(II)-chlorid, 6*H ₂ O	1	"	allergEAZE	—	—	18	Sandelholzöl	10	pet.	allergEAZE	—	—	
4	Perubalsam	25	"	allergEAZE	—	—	19	Compositae Mix II	5	"	Chemotech.	—	—	
5	Kolophonium	20	"	allergEAZE	—	—	20	Mercaptobenzothiazol	2	"	allergEAZE	—	—	
6	N-Isopropyl-N'-phenyl-p-phenylendiamin	0.1	"	allergEAZE	—	—	21	Lyral	5	"	allergEAZE	—	—	
7	Wollwachsalkohole	30	"	allergEAZE	?	—	22	Iodpropinylbutylcarbamate	0.2	"	allergEAZE	—	—	
8	Mercapto-Mix ohne MBT (nur CBS, MBTS, MOR)	1	"	allergEAZE	?	—	23	Duftstoff-Mix II	14	"	allergEAZE	—	—	
9	Epoxidharz	1	"	allergEAZE	—	—	24	Sorbitansesquioleat	20	"	allergEAZE	?	—	
10	Methylisothiazolinon	0.05	aq.	allergEAZE	—	—	25	Ylang-ylang (I+II) Öl	2	"	allergEAZE	—	—	
11	Nickel(II)-sulfat, 6*H ₂ O	5	pet.	allergEAZE	?	—	26	Jasmin officinale	2	"	allergEAZE	—	—	
12	Formaldehyd	1	aq.	allergEAZE	?	—	27	p-Phenylendiamin (freie Base)	0,3		SmartPractice			
13	Duftstoff-Mix	8	pet.	allergEAZE	—	—	28	1,2-Benzisothiazolin-3-on Natriumsalz	0.1	Pet.	SmartPractice	—	—	
14	Terpentin	10	"	allergEAZE	—	—	29	Natriumlaurylsulfat (SLS)	0.25	aq.	allergEAZE		—	
15	Propolis	10	"	allergEAZE	?	—								—

IRR

Case Report – Allergy Work up

- Extreme Advanced Tattoo Ink, Extra Black
- Nickel, Chromium VI, Glycerin, Ethanol, Polyethylene Glycol
- Ad Kantonales Laboratorium



Case Report – Kantonales Laboratorium

- Dr. Urs Hauri
 - Gruppenleiter Chromatographie

Kantonales Laboratorium



Kannenfeldstrasse 2

4056 Basel

Öffnungszeiten

Montag bis Donnerstag:

8.30 - 11.45 Uhr und 13.30 - 16.30 Uhr

Freitag:

8.30 - 11.45 Uhr und 13.30 - 16.00 Uhr

+41 61 385 25 00

sekr.kantonslabor@bs.ch

Case Report – Allergy Work up

Resultate

Probenummer		P24.M615	P24.M616
Nummer (Extern)		UG240369	EX240361
Elemente mit ICP-MS nach Mikrowellenaufschluss			
Antimon	mg/kg		0.239
Arsen	mg/kg		0.136
Barium	mg/kg		0.568
Blei	mg/kg		<0.1
Cadmium	mg/kg		<0.1
Chrom	mg/kg		13.0
Kobalt	mg/kg		11.9
Kupfer	mg/kg gesamt		30.4
Nickel	mg/kg		0.273
Quecksilber	mg/kg	15'181	
Quecksilber	mg/kg		nn
Selen	mg/kg		<0.1

skin bleaching agent



Case Report – REACH

- Regulation (EC) No 1907/2006 (REACH Regulation) is an EU chemicals regulation that was implemented on **1 June 2007**
- *Registration, Evaluation, Authorisation and Restriction of Chemicals*
- Principle: no data, no market. Only chemical substances that have been registered in advance may be available on the market

Critics:

- Investigations and safeguarding generate disproportionately **high costs**
- REACH affects companies manufacturing **within the EU**, placing them at a competitive disadvantage
- 08/2018 at least **one third** of the dossiers for high-volume substances **contained incorrect data or were missing data** altogether.

Case Report – IVDK Tattoo Studie 2.0

IVDK Tattoo Studie 2.0

Studienakronym/Studienabkürzung

Kein Eintrag

Internetseite der Studie

<https://ivdk.org/de/aktivit%C3%A4ten/tattoo-studie/>

Allgemeinverständliche Kurzbeschreibung

Die IVDK Tattoo Studie 2.0 soll die Diagnose von Patientinnen und Patienten mit Verdacht auf eine allergische Reaktion gegenüber permanenten Tätowierfarben verbessern. Im Falle einer Kontaktallergie ist es wichtig, dass Betroffene „Ihr“ Allergen (z.B. ein bestimmtes Pigment oder Metall) oder evtl. sogar chemisch ähnliche Stoffe fortan auch in anderen Produkten meiden um symptomfrei zu bleiben. Umso wichtiger ist die verlässliche Identifikation der ursächlichen Allergene. Mit Hilfe einer Hautprobe aus entzündeten Tätowierungen können Inhaltsstoffe der Tätowierfarbe bestimmt werden, die die Unverträglichkeitsreaktion mutmaßlich auslösten. Mit diesen Informationen können geeignete Testallergene hergestellt und angewendet werden, die für Dermatologen bisher nicht zur Verfügung stehen. Außerdem werden in einer Blutprobe Zellen des Immunsystems zur Bestätigung oder Ausschluss einer allergischen Reaktion untersucht und im Labor weiter charakterisiert. Damit sollen allergische Reaktionen auf Tätowierfarbe besser diagnostiziert und verstanden werden und die ursächlichen Allergene in Tätowierfarben erkannt werden.

Wissenschaftliche Kurzbeschreibung

Kein Eintrag

Prospective study; recruitment November 2023 until March 2026

Organisatorische Daten

DRKS-ID der Studie:
DRKS00032904

Informationsverbund Dermatologischer Kliniken
(IVDK)

Dr. Steffen Schubert

3

37073 Göttingen

Deutschland

Case Report – Diagnosis

Superinfected irritative-toxic reaction

- due to tattoo ink containing metals

Case Report – Conclusions

- It remains difficult to distinguish between irritative-toxic and allergic reactions
- Patch testing for metals has limited sensitivity and specificity (CAVE irritation)
- Professional laboratory chemical analysis of the product used is recommended (CAVE availability)

Case Report – Discussion

- 1) Patch test reaction for mercury amide chloride (Quecksilber-amidchlorid)
- 2) Chromium salts can induce cutaneous irritation
- 3) Laboratory detection of elevated cobalt levels
- 4) Limitation of the tests. Applied product cannot be examined
 - Skin biopsy as alternative? lymphocyte transformation test (LTT)?

[Review](#) > [Contact Dermatitis](#). 2015 Nov;73(5):261–80. doi: 10.1111/cod.12436.
Epub 2015 Jun 24.

Chromium allergy and dermatitis: prevalence and main findings

[David Bregnbak](#)¹, [Jeanne D Johansen](#)¹, [Morten S Jellesen](#)², [Claus Zachariae](#)³, [Torkil Menné](#)¹, [Jacob P Thyssen](#)¹

[Review](#) > [J Trace Elem Med Biol](#). 2023 Sep;79:127240. doi: 10.1016/j.jtemb.2023.127240.
Epub 2023 Jun 8.

Heavy metals in contact dermatitis: A review

[Sajad Chamani](#)¹, [Leila Mobasheri](#)², [Zeinab Rostami](#)³, [Iman Zare](#)⁴, [Ali Naghizadeh](#)⁵, [Ebrahim Mostafavi](#)⁶

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