tox info suisse

Annual report 2018

Tox Info Suisse is the proper address for private individuals, professionals, organisations and companies for all questions regarding poisoning.

Summary of the most important services:

→ Emergency hotline 145
→ Information and advice concerning poisoning for private individuals and medical professionals
→ Consultations concerning poisons (theoretical enquiries, tel. +41 44 251 66 66)
→ Tox Info app (free of charge for iOS and Android)
→ Documentation and treatment schemes
→ Consultations and services for companies
→ Risk assessment and expert opinion
→ Poisoning prevention and toxicovigilance of pharmaceuticals
→ Postgraduate education for specialist physicians in clinical pharmacology and toxicology
→ Research and education

Cover: iStock.com

Contents

Dear reader,

Tox Info Suisse is a successful model or the foundation would no longer exist after all these years. (D. Jakob, foundation law consultant)

What was correct over 50 years ago, met the code of values of those days and has been proving its worth for a long time, can suddenly no longer be valid in modern times.

Such changes go unnoticed. First they are pushed off to the side, then they are felt only when there is a shortage of human resources or when problems are realised.

This is the latest point in time that an organisation should be critically scrutinised, analysed and its future potential verified.

The foundation Tox Info Suisse is going through this process now. Seeing that its external appearance – new name, new logo and new image – was improved on the occasion of its 50th anniversary three years ago, now the time has come to tailor its internal structure to better suit the present conditions.

The foundation must be organised for the next 10 years in such a way that it can fully comply with its core mission which is to provide the population with consultations in case of poisoning and keep its finances in balance.

This requires transparency, efficiency and professionalism throughout the organisation. The Foundation Council and the management are both keen on a healthy future for Tox Info Suisse and they are actively pursuing this goal!

Elisabeth Anderegg-Wirth
President of the Foundation Council of
Tox Info Suisse

05

Toxicological expertise and consultations in demand

Telephone consultations in toxicological emergencies and responding to prevention questions remained the core task of Tox Info Suisse in 2018 as in the past. In addition, the broad expertise of its toxicologists was much in demand in many areas in the public and private domains.

In 2018 the information service of Tox Info Suisse received 41,156 enquiries (+ 2.1 % compared to 2017). Two thirds (66.3 %) of these enquiries came from the general public, one quarter (25.8 %) from medical professionals, and 7.9 % from other sources. The website containing up-to-date information regarding poisoning was visited 440,745 times. Nearly 13,000 people have been using the Tox Info app.

Experts on duty

Besides the telephone emergency service Tox Info Suisse compiles expert reports and case analyses for the industry and authorities. Senior medical staff regularly carries out clinical toxicological consultations at the wards and emergency department of the University Hospital of Zurich. Tox Info Suisse also provides medical emergency advice outside office hours for the pharmaceutical and chemical industry as well as hotline support related to material safety data sheets and international transport of hazardous materials. It also performs emergency unblinding in clinical trials.

Role in the Swiss antidote network

Mandated by the Swiss Conference of cantonal directors of public health, Tox Info Suisse ensures antidote supply in Switzerland in collaboration with the Swiss Association of Public Health Administration and Hospital pharmacists (GSASA) as well as with the pharmacy of the Swiss Army. Updating the Swiss antidote list and the publication of monographs and leaflets on antidotes are also tasks of Tox Info Suisse.

Education

Hugo Kupferschmidt and Stefan Weiler contribute to the training of students as lecturers at the school of medicine at the University of Zurich, and in the MSc in Toxicology and MAS in Toxicology programmes at the Universities of Basel and Geneva. Permanent academic staff regularly gives lectures in clinical toxicology for the postgraduate and continuing education of physicians and other members of the medical profession and professional organisations. Of particular note is the all-day seminar for paramedics offered twice a year in collaboration with the Advanced College for Rescue Service Professions. Structured education rounds are provided to the staff of Tox Info Suisse on a weekly basis.

Scientific activities

Research projects are now conducted under the lead of PD Stefan Weiler, MD, head of the scientific services of Tox Info Suisse in line with the association with the University of Zurich. The main focus of the research efforts are the toxicoepidemiology as well as the dose-effect relationships in human poisoning, in particular related to drug overdose. Part of this work is performed in the context of medical theses. The research results were presented at national and international scientific meetings, including the annual congress of the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT), the North American Congress of Clinical Toxicology (NACCT), the annual meeting of the Society of Clinical Toxicology (GfKT), the Swiss Society of General Internal Medicine (SSGIM) and the Swiss Society of Clinical Pharmacology and Toxicology. Publications are listed on page 22 and on the website.

tox 145

for iOS (Apple Store)

for Android (Google Play)

The Tox Info app has existed since 2015 and has been developed with the support of the Federal Office of Public Health (FOPH). It provides advice on first-aid measures, explains the hazard pictograms for chemical products and conveys news in the domain of human toxicology. To facilitate the identification of agents, EAN barcodes and photos can be sent directly to Tox Info Suisse when calling the emergency hotline 145 using the app. Downloading the Tox Info app is free of charge for iOS and Android in Switzerland and neighbouring countries.

06

Pharmaceutical poisoning in the light of drug safety

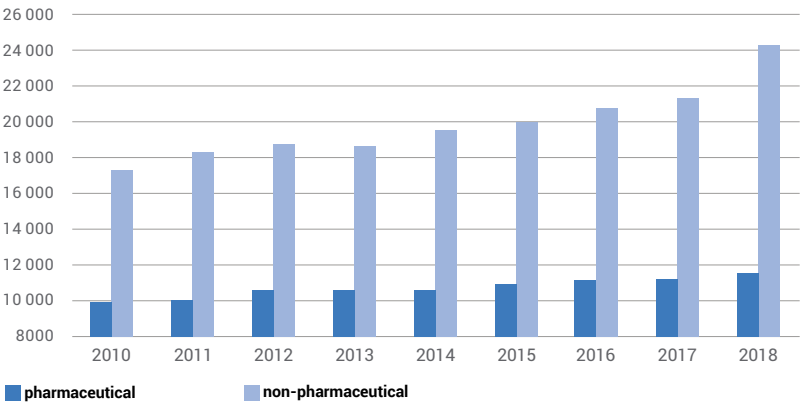
The discipline of drug safety covers all aspects of the use of pharmaceuticals, also those beyond therapeutic use. Drug safety includes abuse as well as overdose and poisoning. According to national and European law[1] symptomatic pharmaceutical poisonings, just like classical adverse drug reactions following drug therapy, are subject to mandatory reporting (pharmacovigilance). In the case of a drug overdose, it is important to know the symptoms as well as the circumstances that lead to the overdose. In a situation like this, both intentional (abuse, suicide attempt) and accidental overdoses play a significant role. Many of these accidental drug poisonings in adults are (preventable) medication errors. According to the consultations provided by Tox Info Suisse, the number of cases of pharmaceutical poisonings between 2010 and 2018 increased from 9,982 to 11,543 (+15.6 %), of which > 94 % were intentional or accidental overdoses.

Pharmaceutical poisonings are often exceptionally severe: about a fourth of the drug exposures, for which medical feedback on the clinical outcome is available, lead to moderate or severe symptoms. Of the fatal cases as many as two thirds were drug-related.

The symptoms following a drug overdose provide important information about the identification and assessment of poisoning risks. This data which is collected and assessed by poisons centres worldwide is important because, for ethical reasons, studies on drug overdoses in people are not feasible. Therefore, it is important to report these cases to the authorities to be able to take regulatory and, at best, prophylactic measures in good time.

While Tox Info Suisse provides medical advice on several thousand symptomatic drug poisonings yearly, only 100 to 400 overdose or drug poisoning cases are notified to the Swiss Agency for Therapeutic Products (Swissmedic)[2] every year. There is considerable underreporting. However, Swissmedic has relinquished Tox Info Suisse's quarterly summary report as of the end of 2018 which served to identify and assess the risk of pharmaceutical poisonings. Since 2004 Tox Info Suisse provided Swissmedic with reports on 52 signals of new and unusual toxicity, analyses on poisonings with human and veterinary drugs as well as on illicit drug poisonings and abuse of medications. Tox Info Suisse thereby made a significant contribution to drug safety in the field of overdoses and drug abuse.

Fig. 1: Annual poisonings of humans 2010–2018



07

Two examples

Tolperisone is widely used in patients with muscle spasms, because, contrary to other centrally acting muscle relaxants, it does not cause drowsiness. The clinical course of overdoses of tolperisone can be dramatic: severe symptoms like coma, respiratory arrest and cardiac arrythmia[3] are observed within minutes; fatal cases are described in medical literature. In 2012 the European Medicines Agency (EMA) recommended restricting the use of tolperisone. Tox Info Suisse drew the attention of the Agency for Therapeutic Products to the risk of this medication and published its own study in 2015.

The confusion of brown small medicine bottles similar in appearance is a well-known cause of medication errors. For some years now it has been recommended to take a monthly dose of a whole bottle of ***Vitamin D*** instead of a daily dose of a few drops. Now, if an entire bottle of another product is inadvertently ingested, patients can have severe symptoms depending on the agent involved since a bottle generally contains multiples of a single therapeutic dose. Since 2012 Tox Info Suisse has regularly received inquiries about such confusions[4]. The most frequent cause of poisoning is confusing vitamin D drops with the painkiller metamizole but also with the antidepressant trimipramine, with the antitussive codeine, with the painkiller tramadol, as well as with acidic wart removers. In four out of 27 cases patients presented moderate or severe symptoms.

Fig. 2: Various small medicine bottles similar in appearance

1. Therapeutic Products Act, TPA SR 812.212.21 and ICH Harmonised Tripartite Guideline E2D
2. Databank of the World Health Organisation (WHO) (Monitoring Centre, Uppsala)
3. Martos V et al. Acute toxicity profile of tolperisone in overdose: Observational poison centre-based study. Clin Toxicol 2015; 53: 470-6.
4. Reichert C, Hofer KE, Rauber-Lüthy C. I thought it was my vitamin drops: mistaking liquid medications for vitamin D drops. Clin Toxicol 2018; 56: 982 (abstract).

08

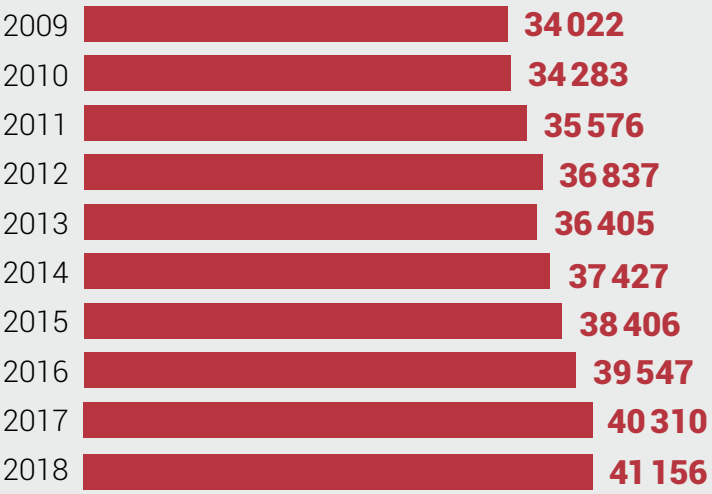
Emergency hotline 145: number of enquiries continues to increase

Every year Tox Info Suisse receives more and more calls. In 2018 this figure was 20.97 % higher than 10 years ago. This shows that a personal medical consultation cannot be replaced by the internet.

The core service of Tox Info Suisse is the telephone emergency consultation for the general public and for medical professionals in all situations of acute or chronic poisoning. Tox Info Suisse also answers theoretical calls without exposure and thus significantly contributes to the prevention of accidental poisoning. All enquiries are electronically recorded in a database which is the basis for this annual report and for scientific analyses. Medical confidentiality and data protection are respected.

General overview of all enquiries

Number of enquiries
In 2018 Tox Info Suisse received 41 156 enquiries. This represents a 2.1 % increase in comparison with the previous year.



This represents a 20.97 % increase over the last ten years.

Origin of enquiries
The largest number of enquiries came from the general public, which reflects its need for information and the growing reputation of Tox Info Suisse. Physicians used our services 9036 times. The majority of these enquiries originated from hospital physicians, which corresponds to the trend that emergency care is increasingly provided by hospitals. Veterinarians accounted for 1066 enquiries (+8.0 %). Pharmacists submitted 482 enquiries to Tox Info Suisse.

In addition, Tox Info Suisse answered 113 requests for information from the media (newspapers, radio and television). 3172 enquiries were received from organisations such as emergency services (+6.5 %), nursery homes (3.8 %), industry, poisons centres abroad and unspecified organisations.

Enquiries with or without toxic exposure
Calls can be subdivided into enquiries without exposure and enquiries where an exposure has taken place. Among the 2965 theoretical enquiries without exposure, information was provided on drugs and antidotes, the toxicity of plants to children and pets as well as the risk of poisoning from spoilt food, household products and chemicals, as well as venomous animals. These recommendations of Tox Info Suisse are predominantly of a preventive nature. This subcategory also includes advice and reports for authorities, media, private individuals and various organisations as well as the distribution of fact sheets and referring enquiries to appropriate experts.

The 38 191 enquiries with toxic exposures concerned 35 948 humans and 2243 animals.

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Origin of enquiries by cantons and population groups

Canton	Population	General public	Hospital physicians	Practitioners	Veterinarians	Pharmacists	Various	Total	Calls/1000 inhabitants public	Calls/1000 inhabitants physicians
AG	670 988	2 145	588	63	95	42	212	3 145	3,2	1,1
AI	16 105	44	2	3	2	–	4	55	2,7	0,4
AR	55 178	146	44	4	5	–	30	229	2,6	1,0
BE	1 031 126	3 671	1 062	170	143	57	502	5 605	3,6	1,3
BL	287 023	952	198	43	36	5	85	1 319	3,3	1,0
BS	193 908	623	387	48	5	22	99	1 184	3,2	2,3
FR	315 074	836	175	25	15	27	97	1 175	2,7	0,7
GE	495 249	1 152	321	82	28	43	179	1 805	2,3	0,9
GL	40 349	92	24	9	9	–	2	136	2,3	1,0
GR	197 888	479	180	53	15	5	43	775	2,4	1,3
JU	73 290	183	84	5	6	5	8	291	2,5	1,3
LU	406 506	1 132	288	75	49	11	183	1 738	2,8	1,0
NE	177 964	472	81	11	7	16	52	639	2,7	0,6
NW	42 969	106	23	5	2	3	12	151	2,5	0,7
OW	37 575	145	26	12	–	3	10	196	3,9	1,0
SG	504 686	1 474	446	68	45	5	195	2 233	2,9	1,1
SH	81 351	283	116	12	9	2	42	464	3,5	1,7
SO	271 432	845	235	30	30	4	94	1 238	3,1	1,1
SZ	157 301	418	93	17	39	3	32	602	2,7	0,9
TG	273 801	929	261	36	43	6	92	1 367	3,4	1,2
TI	353 709	569	359	34	22	19	34	1 037	1,6	1,2
UR	36 299	89	23	8	5	1	7	133	2,5	1,0
VD	793 129	2 096	429	92	146	62	214	3 039	2,6	0,8
VS	341 463	808	154	60	21	20	82	1 145	2,4	0,7
ZG	125 421	382	68	25	24	8	62	569	3,0	0,9
ZH	1 504 346	6 077	1 513	318	211	102	756	8 977	4,0	1,4
FL	38 114	84	5	2	–	4	9	104	2,2	0,2
foreign	–	282	510	17	52	2	73	936	–	–
unknown	–	773	2	12	2	5	75	869	–	–
Total	**8 522 244**	**27 287**	**7 697**	**1 339**	**1 066**	**482**	**3 285**	**41 156**	**3,2**	**1,2**
%	–	66,3	18,7	3,3	2,6	1,2	8,0	100	–	–

Human poisoning

Children below 5 years of age most frequently involved

The highest number of cases involved children below five years of age (45.1%). Overall, children (55.3 %) were more frequently involved in toxic exposures than adults (44.4 %). Boys were more frequently represented amongst the children (50.5 % vs 48.1%) and women amongst the adults (57.8 % vs 41.7 %). This distribution has hardly changed in comparison with the previous year.

Age and gender of human cases with toxic exposure

	Age	female		male		unknown	Total	
Children		8 898	48,1 %	9 354	50,5 %	256	18 508	55,3 %
Age	< 5 Jahre	7 233	81,3 %	7 713	82,5 %	136	15 082	
	5 – < 10 years	729	8,2 %	885	9,5 %	14	1 628	
	10 – < 16 years	624	7,0 %	475	5,1 %	5	1 104	
	unknown	312	3,5 %	281	3,0 %	101	694	
Adults		8 595	57,8 %	6 195	41,7 %	72	14 862	44,4 %
Age	16 – < 20 years	587	6,8 %	350	5,6 %	–	937	
	20 – < 40 years	1 611	18,7 %	1 331	21,5 %	5	2 947	
	40 – < 65 years	1 283	14,9 %	1 080	17,4 %	3	2 366	
	65 – < 80 years	359	4,2 %	292	4,7 %	–	651	
	80+ years	245	2,9 %	136	2,2 %	1	382	
	unknown	4 510	52,5 %	3 006	48,5 %	63	7 579	
unknown		19	24,4 %	11	14,1 %	48	78	0,2 %
Total		**17 512**	**52,4 %**	**15 560**	**46,5 %**	**376**	**33 448**	**100 %**

Most toxic exposures are accidental, in other words non-intentional. Small children are mainly involved.

Accidental poisonings prevail over intentional poisonings

A distinction must be made between the circumstances of poisoning which can be divided into three categories: accidental (non-intentional) poisonings, intentional poisonings and adverse drug reactions. Accidental poisonings occur at home (private housing and garden), occupational (workplace) and environmental (caused by human activities via food, drinking water or breathing air). Intentional poisonings are suicides, attempted suicides, drug abuse and criminal poisonings (by a third party).

Circumstances of toxic exposures in humans

Circumstances of toxic exposures		Acute poisoning (exposure ≤ 8h)		Chronic poisoning (exposure > 8h)
accidental domestic	24 225	72,4 %	506	1,5 %
accidental occupational	1 210	3,6 %	81	0,2 %
accidental environmental	21	0,1 %	9	0,03 %
accidental others	1 634	4,9 %	85	0,3 %
Total accidental	**27 090**	**81,0 %**	**681**	**2,0 %**
intentional suicide	3 016	9,0 %	58	0,2 %
intentional abuse	548	1,6 %	118	0,4 %
intentional criminal	85	0,3 %	22	0,07 %
intentional others	736	2,2 %	174	0,5 %
Total intentional	**4 385**	**13,1 %**	**372**	**1,1 %**
Total accidental and intentional	**31 475**	**94,1 %**	**1 053**	**3,1 %**
Total acute and chronic		**32 528**		**97,2 %**
adverse drug reactions		**230**		**0,7 %**
unclassifiable/others		**690**		**2,1 %**
Total		**33 448**		**100 %**

In both groups of toxic exposures it is necessary to distinguish between acute poisoning (exposure ≤ 8 hours) and chronic poisoning (exposure > 8 hours). Repeated single exposures happening over a short period of time are often difficult to classify. In addition, there are adverse drug reactions defined as toxic reactions in the context of a therapeutic drug administration.

Agents

For analysis, the agents (toxins) involved were split into 12 categories. The distribution has not changed significantly in comparison to the previous year. A supplement with details to the individual agent groups is available on www.toxinfo.ch.

Frequency of agent groups in all cases of human poisoning

Agents/ Age groups	Adults	Children	Age unknown		Total
Pharmaceuticals	5 927	5 604	12	11 543	34,5 %
Household products	2 744	5 841	21	8 606	25,7 %
Plants	696	2 412	5	3 113	9,3 %
Cosmetics and personal care products	319	1 975	2	2 296	6,9 %
Technical and industrial products	1 689	451	10	2 150	6,4 %
Food and beverages (excl. mushrooms and alcohol)	893	717	13	1 623	4,9 %
Recreational drugs and alcohol	672	427	3	1 102	3,3 %
Agricultural and horticultural products	412	342	1	755	2,3 %
Mushrooms	364	214	2	580	1,7 %
Venomous animals	302	141	1	444	1,3 %
Veterinary drugs	66	49	–	115	0,3 %
other or unknown agents	778	335	8	1 121	3,4 %
Total	**14 862**	**18 508**	**78**	**33 448**	**100 %**

Severity of poisoning

8788 enquiries from physicians (97.3 % of all medical enquiries) were related to cases of expected or already established poisoning. In these cases, the treating physicians received a summary of the telephone consultation, together with a request for feedback on the clinical outcome. Tox Info Suisse received a report on the outcome in 67.1 % of these cases. Thus Tox Info Suisse receives medically qualified information on symptoms, clinical outcome and treatment of acute and chronic poisonings which is entered and analysed in its in-house database.

Data capture and evaluation are standardised according to circumstances, causality and severity of poisoning. Severity is categorised as follows: no symptoms, minor, moderate, severe, or fatal. Minor symptoms typically require no treatment, moderate symptoms usually require treatment, and cases with severe symptoms must invariably be treated.

This annual report only includes poisonings where causality was confirmed or likely. Confirmed means that the toxin has been analytically detected in the body, the time course and symptoms are compatible with the toxin, and the symptoms could not be explained by an underlying illness or any other cause. Likely causality fulfils the same criteria, but the agent has not been detected in the body.

4387 human cases both asymptomatic and symptomatic with sufficient evidence of causality were analysed further with regard to clinical course (+3.96 % compared to 2017).

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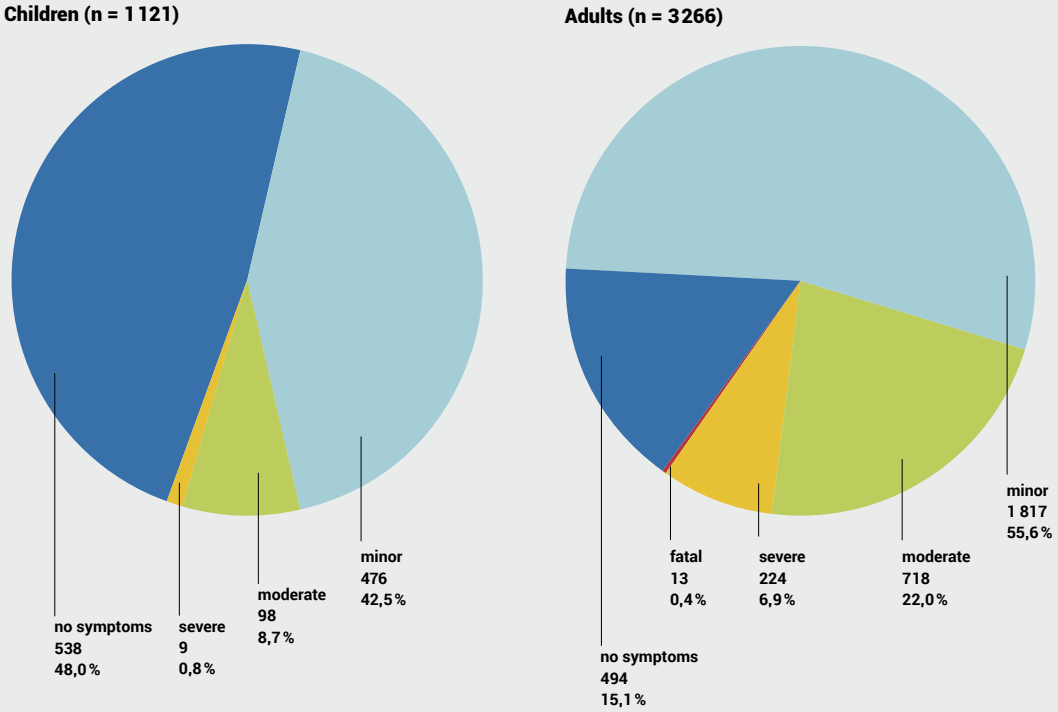
Clinical outcome of poisoning in children and adults

Of the 4 387 cases where causality was confirmed or likely, about three fifths involved an ingestion of only one toxin. In two fifths of the cases, two or more agents were involved. These cases have been categorized according to the most important agent involved.



Frequency of agent groups and severity of human poisoning in cases where medical feedback was received and analysed

Agent groups	Adults					Children					Total	
Severity of poisoning	N	Mi	Mo	S	F	N	Mi	Mo	S	F		
Pharmaceuticals	366	1 075	415	161	8	330	217	48	6	–	2 626	59,9 %
Household products	46	149	22	14	1	96	127	20	1	–	476	10,9 %
Technical and industrial products	33	247	50	3	1	14	26	7	–	–	381	8,7 %
Recreational drugs and alcohol	10	141	127	34	2	12	10	9	2	–	347	7,9 %
Plants	11	39	21	1	–	29	22	3	–	–	126	2,9 %
Mushrooms	4	41	42	2	–	13	3	2	–	–	107	2,4 %
Cosmetics and personal care products	8	15	3	–	–	21	40	2	–	–	89	2,0 %
Venomous animals	–	21	16	2	–	–	10	3	–	–	52	1,2 %
Agricultural and horticultural products	7	22	5	5	1	4	3	1	–	–	48	1,1 %
Food and beverages (excl. mushrooms and alcohol)	2	15	5	–	–	10	5	–	–	–	37	0,8 %
Veterinary drugs	2	4	–	1	–	5	1	–	–	–	13	0,3 %
other or unknown agents	5	48	12	1	–	4	12	3	–	–	85	1,9 %
Total	**494**	**1 817**	**718**	**224**	**13**	**538**	**476**	**98**	**9**	**–**	**4 387**	**100 %**

Severity of poisoning: **N = no symptoms, Mi = minor, Mo = moderate, S = severe, F = fatal**

Animal poisoning

Animals involved
2243 enquiries relating to 2183 cases concerned a large variety of animals also in 2018: 1634 dogs, 409 cats, 61 equines (horses, ponies), 28 lagomorphs (hares, rabbits), 23 bovines (calf, cattle, cows, goats, sheep), 11 rodents (guinea pigs, rats), 10 birds (bird of prey, chickens, parrots, unknown birds), 3 pigs, 1 alpaca, 1 bat, 1 fish, 1 reptile (tortoise).

Frequency of agent groups in all cases of animal poisoning

Agent groups		No. of cases
Food and beverages (excl. mushrooms and alcohol)	443	20,3 %
Pharmaceuticals	430	19,7 %
Plants	396	18,1 %
Agricultural and horticultural products	316	14,5 %
Household products	238	10,9 %
Veterinary drugs	101	4,6 %
Technical and industrial products	44	2,0 %
Venomous animals	40	1,8 %
Cosmetics and personal care products	37	1,7 %
Recreational drugs and alcohol	36	1,6 %
Mushrooms	21	1,0 %
other or unknown agents	81	3,7 %
Total	**2 183**	**100 %**

Severity of poisoning

Veterinarians were also asked to submit clinical follow-up reports on animal poisoning. Tox Info Suisse received a total of 445 reports which could be analysed.

Frequency of agent groups and severity of animal poisoning in cases where medical feedback was received and analysed

Agent groups / Severity of poisoning	N	Mi	Mo	S	F	Outcome / Total	
Pharmaceuticals	75	22	9	4	–	110	24,7 %
Food and beverages (excl. mushrooms and alcohol)	55	16	6	1	–	78	17,5 %
Agricultural and horticultural products	49	11	4	3	1	68	15,3 %
Plants	31	23	8	1	–	63	14,2 %
Veterinary drugs	17	19	7	3	–	46	10,3 %
Household products	15	13	4	–	–	32	7,2 %
Venomous animals	3	5	1	4	1	14	3,1 %
Recreational drugs and alcohol	3	7	2	–	–	12	2,7 %
Technical and industrial products	5	3	3	–	–	11	2,5 %
Cosmetics and personal care products	3	–	1	–	–	4	0,9 %
Mushrooms	–	3	1	–	–	4	0,9 %
other or unknown agents	2	–	1	–	–	3	0,7 %
Total	**258**	**122**	**47**	**16**	**2**	**445**	**100 %**

Severity of poisoning: **N = no symptoms, Mi = minor, Mo = moderate, S = severe, F = fatal**

Annual financial statement well balanced

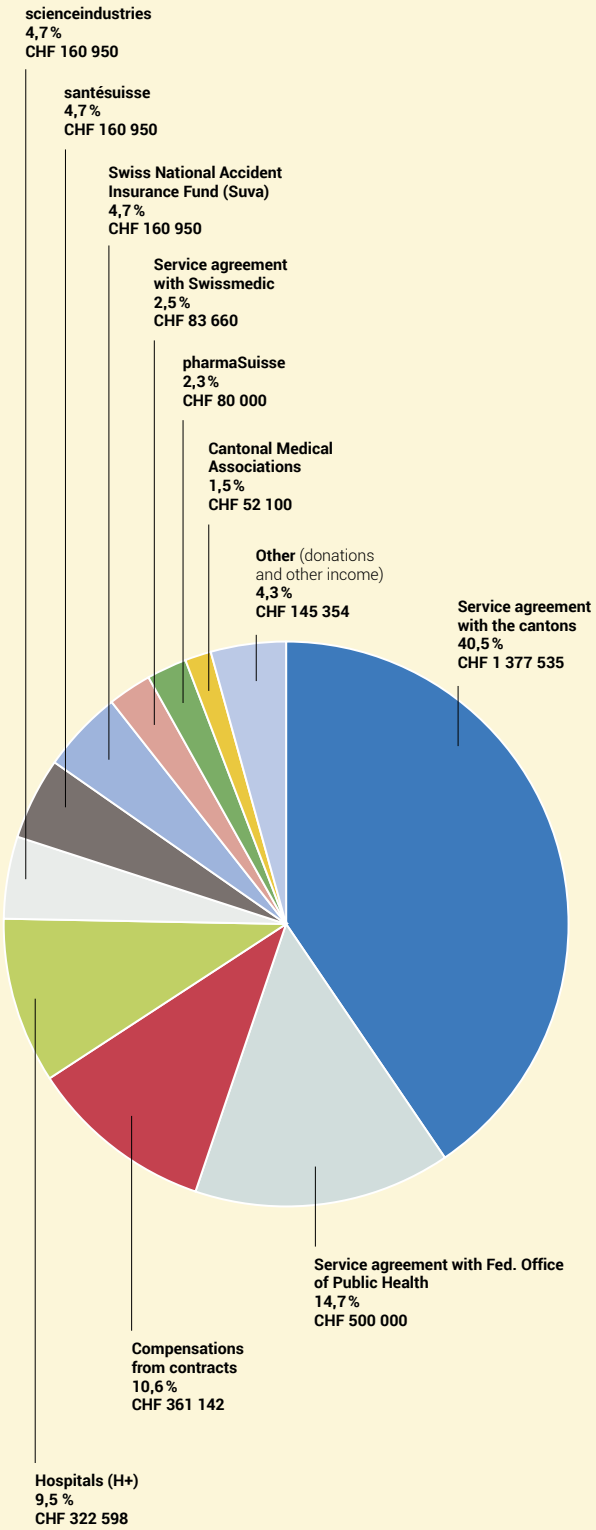
Income statement 2018

Income	CHF
Contributions from supporting bodies	614 950
Income from contracts	
Confederation	583 660
Cantons	1 377 535
others	361 142
Hospitals (H+)	322 598
Honoraria and expert opinions	34 703
Research projects	14 750
Donations	83 699
other income (anniversary)	10 262
Interest and benefits from equity	1 940
Total income	**3 405 239**
Expenses	
Staff costs	2 813 826
Facilities	135 927
Furniture and equipment	–25 043
IT costs	258 378
Office and administration costs	29 616
Communication	9 105
Literature and archiving costs	10 391
Research and education costs	5 514
Bank charges, interest	230
Telephone, postage, facsimile	30 975
other expenses	3 601
total income (anniversary)	–91 781
Allocation of provision to ensure liquidity	125 000
Allocation from anniversary settlement 2013	22 288
Allocation from closing of anniversary provision	69 493
Total expenses	**3 397 520**
Net profit	**7 719**

Balance as at 31.12.2018

Assets	CHF
Current assets	
cash	3 551 587
trade accounts receivable	371 427
account EAPCCT	11 293
other short-term receivables	635
prepaid expenses and accrued income	15 171
Total assets	**3 950 113**
Liabilities	
Short-term liabilities	
trade accounts payable	116 100
other short-term payables	100 643
accrued expenses and deferred income	175 566
provisions anniversary 2016	0
Provisions	
provisions	2 677 588
foundation capital and general reserves	800 400
profit carried forward	72 097
Profit	7 719
Total liabilities	**3 950 113**

Source of income



Auditor's report

SwissRevision AG

To the Council of
Foundation Tox Info Suisse
Zurich, Switzerland

Auditor`s report on the limited examination 2018

As statutory auditors we have examined the financial statements (balance sheet, income statement and notes) of Foundation Tox Info Suisse for the year ended December 31, 2018.

These financial statements are the responsibility of the board of directors. Our responsibility is to perform a limited statutory examination on these financial statements. We confirm that we meet the licensing and independence requirements as stipulated by Swiss law.

We conducted our examination in accordance with the Swiss Standard on the Limited Examination. This standard requires that we plan and perform a limited examination to identify material misstatements in the financial statements. A limited examination consists primarily of inquiries of company personnel and analytical procedures as well as detailed tests of company documents as considered necessary in the circumstances. However, the testing of operational processes and the internal control system, as well as inquiries and further testing procedures to detect fraud or other legal violations, are not within the scope of this examination.

Based on our limited examination, nothing has come to our attention that causes us to believe that the financial statements do not comply with Swiss law and the rules of the foundation.

Swiss Revision AG

Cornel Baerlocher
Licensed Audit Expert
Swiss Certified Accountant
Auditor in Charge

ppa. Matthias Scherrer
Licensed Audit Expert
Swiss Certified Accountant

Zurich, June 13, 2019 CB/DF

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info@swiss-revision.ch, www.swiss-revision.ch Mitglied von EXPERTsuisse

Thanks to all donors!

Tox Info Suisse is a charitable non-profit making private foundation. It is partly funded by donations from companies, organisations and private individuals. The donations are used exclusively to support the poisons information service.

Donations 2018 of and above CHF 1000

Coop Genossenschaft	10 000
Veterinary clearing house (GST AG)	10 000
SC Johnson GmbH	4 600
Henkel & Cie. AG	3 000
Pfizer AG	3 000
Procter & Gamble Switzerland SARL	3 000
The Swiss Cosmetic and Detergent Association	3 000
Unilever Schweiz GmbH	3 000
Reckitt Benckiser Switzerland AG	2 000
Dr. med. Markus Frey	1 000
Ebi Pharm AG	1 000
IBSA Institut Biochimique SA	1 000
Ideal Chimic SA	1 000
IVF Hartmann AG	1 000
Zambon Svizzera SA	1 000

Numerous smaller contributions not listed here are frequent and very welcome. We extend grateful thanks to all donors.

Each contribution to the donation account supports the future of the poisons information service! We thank all donors in advance for their payment to:

PostFinance:
IBAN CH20 0900 0000 8002 6074 7
or
Crédit Suisse:
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Online donations can be made on our website.

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Benefit and future of the emergency service in case of poisoning

In 2018 the number of consultations provided by Tox Info Suisse continued to rise. This was to be expected as the population in Switzerland also grew in the same year. This growth poses problems for the foundation, as financing is not experiencing the same upward trend; on the contrary, fewer and fewer organisations are willing to support this service. This raises questions about the future of the emergency service in Switzerland.

Tox Info Suisse has already digitised all domains of the emergency service including availability of information and documentation. Consultation protocols are still being sent to enquiring physicians in paper form, but the systems are ready for electronic exchange. In 2018 the telephone system was replaced by the Voice-over-IP (VoIP) modern technology.

Benefit of the emergency service in case of poisoning

The benefit of the emergency service is a treatment proposal tailored to each individual case: each case involves a risk assessment, prognosis resulting in a concrete treatment proposal. Risk assessment is based on the information about the toxic exposure that the caller provides and about the risk of the product or substance for which Tox Info Suisse has evidence. The circumstances of the exposure and the identification of the agent are not always very clear and must be clarified in the dialogue with the caller. Therefore, this is not just about providing advice on how best to proceed and what to do next, but also about carrying out comprehensive expert analyses of poisoning cases as such. Advice on the further course of action may then consist in taking medical measures rapidly, or alternately that nothing more is required and that any measures would only entail costs and further risks. Both alternatives are equally useful for the caller. Tox Info Suisse takes responsibility for all consultations, be it for public consultations or for those receiving medical treatment locally. However, for the consultations provided to the general public for which no further measures are recommended, Tox Info Suisse bears the full responsibility.

It is important that the emergency service be available around the clock and advice can be provided as quickly as possible (namely the period during which an answer can still have an influence on recovery).

Future of the emergency service in case of poisoning

Digitalisation is also an important element when providing consultations in case of poisoning. Most poisons centres introduced computer-based services already in the early 90's, long before electronic medical records were implemented in hospitals. Poisons centres have been practicing telemedicine for over 50 years, long before the word even existed. The emergency service experienced another push in digitalisation with the general availability of information on the Internet, because obtaining information electronically substituted time-consuming orders by mail and trips to libraries. The next steps will include evaluating large amounts of data electronically and exchanging general health-care data as soon as harmonised data formats are available and the aspects of data protection laws are clarified.

Even though networking with other poisons centres and partners continues to develop and poisons centres are benefiting more from electronic information as well as data and risk assessment, individual telephone consultations will not change much. These electronic aids can be used to complement the emergency service with additional information. Fully artificial intelligence will only gain acceptance when it is more effective and at lower cost than personal medical consultations.

The work of Tox Info Suisse enjoys broad support

Tox Info Suisse is a private foundation. It was established in 1966 and is based on a private-public partnership.

Supporting bodies

pharmaSuisse
Schweizerischer Apothekerverband

pharmaSuisse is the Swiss pharmacists' Association. It is the founder of the Swiss Toxicological Information Centre in 1966, now Tox Info Suisse.

santésuisse
Die Schweizer Krankenversicherer
Les assureurs-maladie suisses
Gli assicuratori malattia svizzeri

santésuisse is the inter-trade organisation of Swiss health insurance companies in the domain of social health insurance.

scienceINDUSTRIES
SWITZERLAND

scienceindustries is the Swiss business association Chemie Pharma Life Sciences. It is the co-founder of the Swiss Toxicological Information Centre in 1966, now Tox Info Suisse.

suva

Suva is the biggest institution in the field of compulsory accident insurance in Switzerland.

KKA CCM CMC
Konferenz der Kantonalen Aerztegesellschaften
Conférence des Sociétés Cantonales de Médecine
Conferenza delle Società Mediche Cantonali

The KKA is the Conference of the Cantonal Medical Associations.

Partners

University of Zurich[UZH]

Tox Info Suisse is an associated institute of the University of Zurich in the domains of research and education.

Tox Info Suisse is involved with the European Association of Poisons Centres and Clinical Toxicologists (www.eapcct.org).

klinitox

Tox Info Suisse collaborates closely with the Society of Clinical Toxicology (Gesellschaft für Klinische Toxikologie, GfKT) which is the professional society of the German-speaking poisons information centres and of clinical toxicologists.

scaht
Swiss Centre for Applied Human Toxicology
Schweizerisches Zentrum für Angewandte Humantoxikologie
Centre Suisse de Toxicologie Humaine Appliquée
Centro Svizzero di Tossicologia Umana Applicata

Tox Info Suisse is represented in the foundation council of the SCAHT.

Service Level Agreements

GDK Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren
CDS Conférence suisse des directrices et directeurs cantonaux de la santé
CDS Conferenza svizzera delle direttrici e dei direttori cantonali della sanità

The services for the general population in Switzerland are regulated by a service level agreement with the Swiss Conference of Cantonal Directors of Public Health (GDK).

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Eidgenössisches Departement des Innern EDI
Bundesamt für Gesundheit BAG

By order of the Swiss Federation, and on the basis of the law and ordinance on chemicals, Tox Info Suisse contributes significantly to emergency consultation and poisoning prevention.

H+
DIE SPITÄLER DER SCHWEIZ
LES HÔPITAUX DE SUISSE
GLI OSPEDALI SVIZZERI

H+ is the national central association of public and private hospitals, infirmaries, and nursing homes.

Swissmedic

By order of the Swiss Agency for Therapeutic Products (Swissmedic) Tox Info Suisse provided toxicovigilance in the domain of pharmaceuticals until end of 2018.

Individuals committed to Tox Info Suisse

Foundation Council

President: Elisabeth Anderegg-Wirth, pharmaSuisse
Vice President: Marcel Sennhauser, scienceindustries
Members: Prof. Michael Arand, University of Zurich / **Dr. Roland Charrière,** Federal Office of Public Health / **Dominique Jordan,** pharmaSuisse / **Dr. Aldo Kramis,** Conference of the Cantonal Medical Associations / **Dr. Martin Kuster,** scienceindustries / **Marion Matousek**, pharmaSuisse (until 31.12.2018) / **Verena Nold,** santésuisse / **Dr. Claudia Pletscher,** Suva / **Cantonal Government Councilor Petra Steimen,** GDK / **Dr. Samuel Steiner,** GDK / **Dr. Bernhard Wegmüller,** H+ (until 30.6.2018) / **Dr. Thomas Weiser,** scienceindustries (until 31.12.2018)
Honorary President: Dr. Dr. h.c. Attilio Nisoli (until 21.9.2018 †)
Honorary member: Dr. Franz Merki

Management

Director: Dr. med. Hugo Kupferschmidt, EMBA-HSG
Head physician and deputy director: Dr. med. Christine Rauber-Lüthy (until 30.4.2018) / **Dr. med. Cornelia Reichert** (as of 1.5.2018)
Senior physicians: Dr. med. Katharina Hofer / **Dr. med. Colette Degrandi** / **Dr. med. Katrin Faber** (as of 1.5.2018) / **Dr. med. Katharina Schenk** (as of 1.5.2018)
Head of scientific services: PD Dr. med. Stefan Weiler (as of 1.6.2018)
Head Administration: Elfi Blum

Staff

Natascha Anders, nurse / **Alexandra Bloch,** dipl. pharm. / **Danièle Chanson,** executive secretary/certified translator / **Trudy Christian,** secretary / **Anna Fall,** secretary (until 31.8.2018) /**Joanna Farmakis,** cleaning service / **Andrea Felser,** PhD / **Joan Fuchs,** M.D. / **Mirjam Gessler,** med. pract. / **Karen Gutscher,** M.D. / **Rose-Marie Hauser-Panagl,** management secretary / **Theresa Hiltmann**, M.D. / **Jawid Jalal,** med. pract. (until 31.1.2018) / **Noëmi Jöhl,** med. pract. / **Irene Jost-Lippuner,** M.D. / **Seraina Kägi,** M.D. / **Kirill Karlin,** med. pract. / **Helen Klingler,** M.D. / **Sandra Koller-Palenzona,** M.D. / **Birgit Krueger,** med. pract. / **Jacqueline Kupper,** vet.D. / **Loredana Lang,** secretary (as of 2.7.2018) / **Saskia Lüde,** PhD / **Nadine Martin,** M.D. / **Franziska Möhr-Spahr,** secretary / **Rouska Nenov,** M.D. (1.6.–30.9.2018) / **Corinne Nufer**, nurse/expert in emergency care (as of 23.7.2018) / **Stefanie Schulte-Vels,** med. pract. / **Verena Sorg,** M.D. (as of 1.11.2018) / **Joanna Stanczyk Feldges,** M.D. / **Jolanda Tremp,** secretary / **Sonja Tscherry,** nurse / **Claudia Umbricht,** IT co-worker / **Margot von Dechend,** M.D. / **Karin Zuber,** secretary.
Medical students: Pascal Fischler (until 28.2.2018), **Micheline Maire,** PhD (as of 26.7.2018), **Debbie Maurer** (as of 1.9.2018), **Maria Paulsson** (13.6.–30.11.2018), **Mathilde Spiess** (until 31.8.2018), **Yves Waser,** **Anna Zurfluh** (until 31.8.2018).

Advisors
Numerous experts from hospitals, institutes, state and federal organisations act as honorary advisers, most notably **Jean-Pierre Lorent** (former Director of the Tox) and **Professor Martin Wilks** M.D., PhD (SCAHT).

Scientific publications

The list of the scientific publications, doctoral theses and master theses can also be found on the website www.toxinfo.ch.

Some of the listed papers can be downloaded from our website www.toxinfo.ch. All others are accessible through scientific libraries. Leaflets about first aid and poisoning prevention are also available in German, French and Italian.

Schwäche, Bradykardie, Sehstörungen, Hyperkaliämie unter Digoxin.
Apte A, Kupferschmidt H, Weiler S.
Swiss Med Forum 2018; 18: 460-62.

Blutungen bei Vitamin-K-Mangel unter Orlistat.
Bank M, Weiler S.
Swiss Med Forum 2018; 18: 479-81.

Nierenfunktionsverschlechterung unter Aliskiren und Itraconazol.
Covi M, Weiler S.
Swiss Med Forum 2018; 18: 722-24.

Antidote bei Vergiftungen 2018/2019.
Degrandi C, Fäh C, Gyr E, Kullin A, Kupferschmidt H, Meister Th, Orion K, Rauber-Lüthy Ch, Storck V.
BAG-Bull 2018; 6: 12-29.

Favorable acute toxicity profile of noscapine in children [abstract].
Degrandi C, Trompelt J, Vagt A, Seidel C, Prasa D, Zatloukal C, Reichert C.
Clin Toxicol 2018; 56: 1-2.

Identification and quantification of thujone in a case of poisoning due to repeated ingestion of an infusion of *Artemisia vulgaris* L.
Di Lorenzo C, Ferretti F, Moro E, Ceschi A, Colombo F, Frigerio G, Lüde S, Restani P.
J Food Sci 2018; 83: 2257-64.

Statin-associated immune-mediated necrotizing myopathy: a retrospective analysis of individual case safety reports from VigiBase.
Essers D, Schäublin M, Kullak-Ublick GA, Weiler S.
Eur J Clin Pharmacol 2019; 75: 409-16. (2018 early online).

Delayed absorption of paracetamol due to co-ingestion of a bezoar-forming pharmaceutical [abstract].
Faber K, Walter M, Rauber-Lüthy C, Huebner T, Kupferschmidt H, Hofer KE.
Clin Toxicol 2018; 56: 71-72.

A verified bite by *Heteroscodra maculata* (Togo starburst or ornamental baboon tarantula) resulting in long-lasting muscle cramps.
Fuchs J, Martin NC, Rauber-Lüthy C.
Clin Toxicol 2018; 56: 675-76.

Escitalopram overdose in children and adolescents [abstract].
Gollmann M, Prasa D, Trompelt J, Hillmann R, Reichert C, Färber E, Stoletzki S, Stedtler U, Vagt A, Heistermann E, Zatloukal C, Genser D.
Clin Toxicol 2018; 56: 556-57.

Neurological symptoms after consumption of earthballs (Scleroderma species): a retrospective case series [abstract].
Haberl B, Ebbecke M, Eckart D, Engel A, Plenert B, Schenk-Jäger K, Schulze G, Pfab R.
Clin Toxicol 2018; 56: 122.

Chronic lead poisoning in an adult with signs of encephalopathy [abstract].
Hofer K, Gutscher K, Degrandi C, Stucki K, Kupferschmidt H.
Clin Toxicol 2018; 56: 1070.

Ocular injuries from head lice shampoos containing a mixture of mineral oil and detergents: a consecutive case series [abstract].
Hofer KE, Kupferschmidt H, Rauber-Lüthy Ch.
Clin Toxicol 2018; 56: 110.

The acute toxicity profile of a teething gel containing salicylamide in toddlers: an observational poisons centre-based study.
Hofer KE, Kaegi S, Weiler S.
Clin Toxicol 2019; 57: 220-21. (2018 early online)

Insulin als Antidot.
Holdener S, Schwegler B, Reichert C, Hofer-Lentner K.
Swiss Med Forum 2018; 18: 867-68.

The acute toxicity profile of a teething gel containing salicylamide in toddlers: observational poisons centre-based study [abstract].
Kägi S, Gessler M, Kupferschmidt H, Hofer-Lentner K.
Swiss Med Wkly 2018; 148(Suppl 228): 71p.

Mushroom Poisoning – A 17 year retrospective study at a level I university emergency department in Switzerland.
Keller SA, Klukowska-Rötzler J, Schenk-Jaeger KM, Kupferschmidt H, Exadaktylos AK, Lehmann B, Liakoni E.
Int J Environ Res Public Health 2018; 15: E2855: 1-20.

Akutes Leberversagen nach wiederholter Paracetamoleinnahme.
Kupferschmidt H, Weiler S.
Swiss Med Forum 2018; 18: 437-39.

Reasons for calls from nursing homes to a national poisons centre [abstract].
Kupferschmidt H.
Clin Toxicol 2018; 56: 927.

Online-Informationssystem für die Phytotherapie bei Tieren.
Kupper J, Walkenhorst M, Ayrle H, Mevissen M, Demuth D, Naegeli H.
Schweiz Arch Tierheilkd 2018; 160: 589-95.

Extrapyramidale Symptome unter Metoclopramid.
Lemmen S, Weiler S.
Swiss Med Forum 2018; 18: 220-21.

I thought it was my vitamin drops: mistaking liquid medications for vitamin D drops [abstract].
Reichert C, Hofer K, Rauber-Lüthy Ch.
Clin Toxicol 2018; 56: 928-29.

Completed and attempted suicides with psychopharmaceuticals in Switzerland [abstract].
Reisch T, Pfeifer Ph, Kupferschmidt H.
Clin Toxicol 2018; 56: 991.

CME: Ethylene Glycol Intoxication.
Ringler S, Gmuer R, Faber K, Bleisch J, Müggler SA.
Praxis 2018; 107: 1097-1106.

Beidseitige Achillodynie unter Ciprofloxacin.
Roos N, Weiler S.
Swiss Med Forum 2018; 18: 123-24.

Hemiballismus unter Cinnarizin.
Roos N, Weiler S.
Swiss Med Forum 2018; 18: 145-46.

Palpitationen unter Xylometazolin.
Rudolph A, Weiler S.
Swiss Med Forum 2018; 18: 415-16.

Unruhe, Unwohlsein und Zittern bei Opioid-Entzugssyndrom.
Rudolph A, Weiler S.
Swiss Med Forum 2018; 18: 295-96.

Pilzvergiftungen 2017.
Schenk-Jäger KM.
SZP – Schweiz Zeitschr Pilzkd 2018; 96: 17-18.

Lithiumintoxikation: kleines Kation, grosse Wirkung – gerade im Alter.
Scholz I, Banholzer S, Kupferschmidt H, Haschke M.
Swiss Med Forum 2018; 18: 670-71.

Accidental or intentional exposure to potentially toxic medications, natural toxins and chemicals during pregnancy: analysis of data from Tox Info Suisse.
Vogel T, Lüde S, Baumgartner R, Rauber-Lüthy C, Simões-Wüst AP.
Swiss Med Wkly 2018; 148: w14620: 1-9.

Pharmacovigilance, Arzneimittelsicherheit und Wissenstransfer: The Swiss RPVC Approach.
Weiler S.
Swissmedic Vigilance-News 2018; 21: 16-23.

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