

# Atomwaffen und Gesundheit

## *Prävention aus globaler Sicht*

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IPPNW

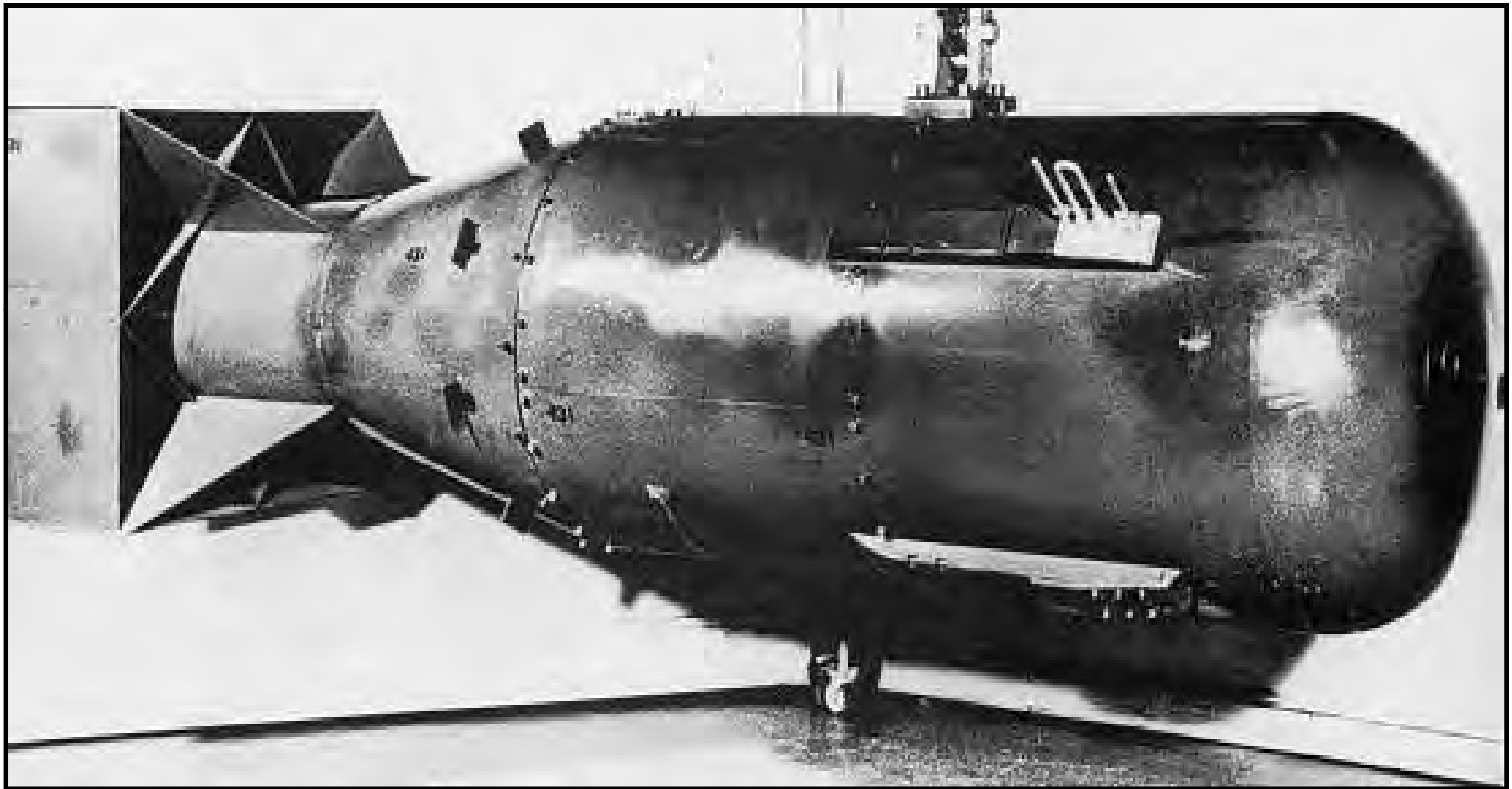
CATAMARAN Wien, 19. Juni 2022

- **SIPRI-Prognose: Renaissance der Atomwaffen (Juni 2022)**
- SIPRI Jahrbuch 2022: Zahl der Atomsprengköpfe zwischen Jänner 2021 und Jänner 2022 zurückgegangen. Januar 2022: 12.705 Atomsprengköpfe (9 Länder)
- Hans M. Kristensen, Experte für Massenvernichtungswaffen bei SIPRI. „Alle atomar bewaffneten Staaten vergrößern oder modernisieren Arsenale, die meisten von verschärfen nukleare Rhetorik und die Rolle von Atomwaffen in ihren Militärstrategien.“
- 2.000 Sprengköpfe in höchster Einsatzbereitschaft

## ÜBERSICHT:

- Atomwaffen, Dimension, Effekte auf die Gesundheit
- Beispiel Hiroshima
- Modellrechnung Atomkrieg
- 5 Arten von Gesundheitseffekten
- Ärztliche und Wissenschaftliche Stellungnahmen und Aktivitäten
- 7 Medizinische Gründe für ein Verbot

Hiroshima-Type Bomb: ca. 13 kt von 20 kt



# Hiroshima and Nagasaki, 1945



- Ground temperatures reached about 7,000 degrees.
- “Black rain” containing radioactive fallout poured down for hours after the explosions.

# A Sofortiger Tod

- Durch Verbrennen und andere physikalische Einwirkungen

# August 6, 1945



- US detonated a 15 kiloton bomb over Hiroshima, Japan.
- Deaths - 118,661.
- Injuries - 78,000.

## B: Akute Strahleneffekte

- Acute Effects of Radiation
  - Burns, “Radiation Sickness,” “Drowning” in Lung Fluids, Skin Lesions, Flashblindness and Retinal Burn, and Death.
- Verbrennungen, ak. Strahlenkrankheit: Übelkeit, Lungenödem, Hautläsionen, Netzhautverbrennung, Blutungen, Tod



## C: Spätfolgen für Gesundheit

- SD-Karzinome, Leukämie, Osteosarkome und andere maligne Tumoren (größtenteils erst in den 50er und 60er Jahren erkannt)
- Sekundäre Gesundheitsfolgen durch Zerstörung von Infrastruktur, Gesundheitseinrichtungen, Ernährungsgrundlage etc.

# D frühe sekundäre Folgen f.d. Gesundheit

- durch Zerstörung von Infrastruktur
- Zerstörte Krankenhäuser
- Kein ausreichendes Personal
- Keine Rettungsfahrzeuge zur Verfügung
- Keine Medikamente

## E: Sekundäre Folgen

- Zerstörung der Ernährungsgrundlage durch den so genannten Nuklearen Winter (wichtigster globale Effekt): Nuclear Famine
- Migration mit diversen Gesundheitsrisiken

# Albert Schweitzer (1875 – 1965)

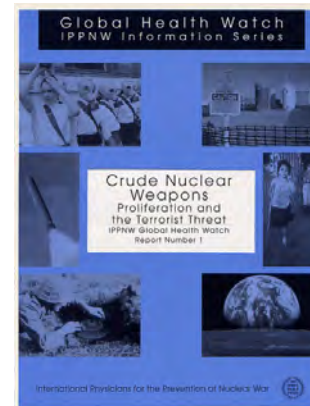
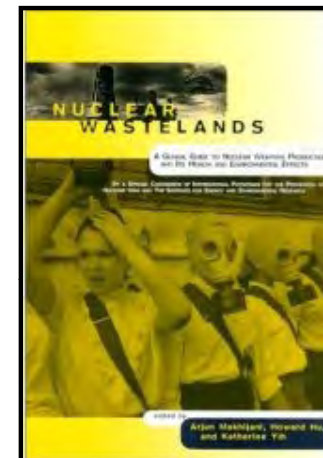
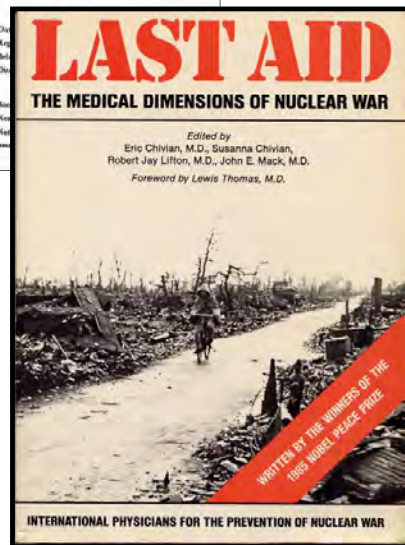


- Gegen Atomversuche
- Gemeinsam mit Einstein für ein Stop der Nuklearwaffenentwicklung
- ➔ Verbot atmosphärischer Atomtests 1961

# Bernard Lown und Jewgenij Chasow: IPPNW 1980



The New England Journal of Medicine	
Established in 1811 as THE NEW ENGLAND JOURNAL OF MEDICINE AND SURGERY	
VOLUME 396	MAY 31, 1952 NUMBER 22
	
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International Physicians  
for the Prevention of Nuclear War



# Nuclear testing before the year 2000




- 2,045 nuclear test explosions by 8 countries.
- Estimated 49,000 deaths from radioactive fallout from testing in Nevada.
- Testing in the South Pacific has left islands uninhabitable and ruined for agriculture.
  - Islanders forced to leave their homes.

„Stop Nuclear Testing“  
Medical Prescription for the Ambassador of India at UN  
Vienna, 1996





# MEDICAL PRESCRIPTION: Stop Nuclear Testing!

GKK _____			Mitglieds-Nr.	
Btr KK _____	927567 63461 6			
<input type="checkbox"/> Bergbau				
<input checked="" type="checkbox"/> Eisenb.				
<input type="checkbox"/> BVA (off. Bed.)				
<input type="checkbox"/> gew. Wirtsch.				
<input type="checkbox"/> Bauern				
Aussteller/in - bitte zutreffendes Feld ankreuzen				
Familienname(n)		Vorname(n)		Versicherungsnummer
Patient/in				
Medical Prescription		Tag		Mon. J
Anschriß				
for NW-states				
Versicherte/r		(Nur auszufüllen, wenn Patient/in ein/e Angehörige/r ist)		
		Tag		Mon. J
Beschäftigt bei (Dienstgeber/in, Dienstort)				
Taxe		Gültig: 14 Tage ab Verordnung Datum:		
		Rp.		
		/ Stop Nuclear Testing!		
Rezeptgebühr				
Anzahl				
Stempel der Apotheke/Hausapotheke		Stempel u. Unterschrift der Ärztin/des A		
		Arztstempel bei Rezeptgebührenbefrei		

- Protest Letters to NW –States after every performed Tests

Conference on Facilitating the Entry into Force of the  
COMPREHENSIVE NUCLEAR-TEST-BAN TREATY

Vienna, 3-5 September 2001

AUSTRIA CENTER  
VIENNA



# Nuclear winter (Crutzen)

- Airborne contaminants absorb and reflect the sun's rays.
- Results in an extended period of semi-darkness and freezing temperatures.
- Potentially generated from less than 100 detonations.

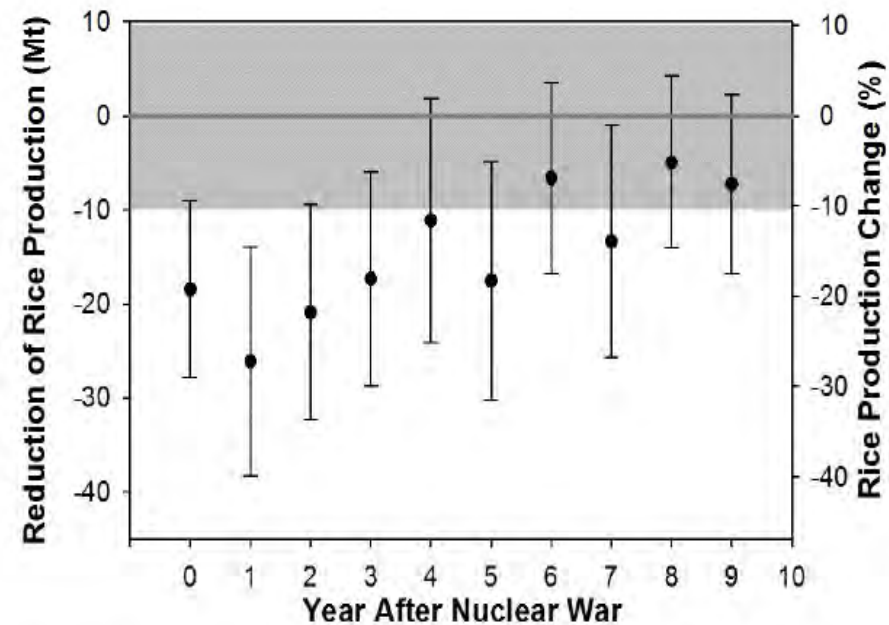


Figure 5: Reduction of rice production with whiskers showing one standard deviation for each nuclear war year. The gray area shows  $\pm 1$  standard deviation from the control runs, illustrating the effect of interannual weather variations.



**NATO Headquarters, 2006**



**Islamabad, 2007**



**Moscow, 2006**



**New Delhi, 2008**

*International Physicians  
for the Prevention of Nuclear War*







# Joseph Rotblat, Wien 1998



# NUCLEAR DETERRENCE and NUCLEAR UMBRELLA







**Mutually assured destruction**

"If you kill us, we kill you."





# NUCLEAR-WEAPON-FREE AREAS

Demarcation of nuclear-weapon-free zones, nuclear-weapon-free status and nuclear-weapon-free geographical regions



# TARGET X



# Target X

- Strasbourg



- London





# TARGET X

- Teheran



- Quito



# TARGET X

- New York



- St. Petersburg



# GENBAKU NOHI 2012





# Medical Summary:

## Seven Reasons for the Prohibition of Nuclear Weapons

- 1 The **Dimension**: Kilotons and Megatons of equivalents to conventional explosives!
- 2 Weapons of **Mass Murder**: Civilians are killed! Immoral! Unethical!
- 3 Nuclear **Famine and Ecological Destruction** follow Nuclear War: Un-ethic!
- 4 Create **Distrust and Insecurity**: however, we need more global security! (“nuclear deterrence” , the balance of terror, is out)
- 5 **Wasted money and intelligence**: there is great need elsewhere to solve global problems!
- 6 Increasing risk for explosion by **error**: see computer errors and happened errors in history!
- 7 No means to fight **terrorism**: It’s the opposite: the longer there exist NWs, the more likely they might get in hands of terrorists!





- Danke für Ihre Aufmerksamkeit!



ENDE



# The Austrian Humanitarian Pledge (2014)

- Austria regards it as her responsibility and consequently pledges to present the facts-based discussions, findings and compelling evidence of the Vienna Conference, which builds upon the previous conferences in Oslo and Nayarit, to all relevant fora, in particular the NPT Review Conference 2015 and in the UN framework, as they should be at the centre of all deliberations, obligations and commitments with regard to nuclear disarmament,
- Austria pledges to follow the imperative of human security for all and to promote the protection of civilians against risks stemming from nuclear weapons,
- **Austria calls on all states parties to the NPT to renew their commitment to the urgent and full implementation of existing obligations under Article VI, and to this end, to identify and pursue effective measures to fill the legal gap for the prohibition and elimination of nuclear weapons**
- Austria pledges to cooperate with all stakeholders to achieve this goal,
- Austria calls on all nuclear weapons possessor states to take concrete interim measures to reduce the risk of nuclear weapon detonations, including reducing the operational status of nuclear weapons and moving nuclear weapons away from deployment into storage, diminishing the role of nuclear weapons in military doctrines and rapid reductions of all types of nuclear weapons, Austria pledges to cooperate with all relevant stakeholders, States, international organisations, the International Red Cross and Red Crescent Movements, parliamentarians and civil society, in efforts to stigmatise, prohibit and eliminate nuclear weapons in light of their unacceptable humanitarian consequences and associated risks.

# The Treaty on the Non-Proliferation of Nuclear Weapons (NPT, 1968/1970) 191 State Parties incl. 5 NW States

- Preamble: focuses on danger of NWs and on benefits of peaceful application of nuclear technologies
- Art. I: **NW state parties: Not to transfer NWs**
- Art. II: **Non-NW state parties: Not to receive NWs**
- Art. III: **Non-NW states: Accept Safeguards**, control of fissile material
- Art. IV: „inalienable right of all the Parties to the Treaty to develop research, production and use of **nuclear energy for peaceful purposes**..” “fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy...”
- Art. V: “ potential benefits from any peaceful applications of nuclear explosions will be made available to non-nuclear-weapon States Party to the Treaty”



## NPT, cont.

- Art. VI: Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on **effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament** under strict and effective international control.
- Art. VII: right of regional treaties
- Art. VIII: Amendments: need majority + all NW states parties + Board of Governors of IAEA
- Art. IX about signature, ratification
- Art. X: right to withdraw; conference after 25 yrs.
- Art. XI: languages etc.


## Other treaties about NWs

- 1963 Treaty banning nuclear weapons tests in the atmosphere
- 1996 Comprehensive Nuclear Test Ban Treaty
- Outer Space
- Bilateral Treaties, SALT, START, INF...

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https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\_no=XXVI-9&chapter=26



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CHAPTER XXVI

9.

STATUS AS AT : 10-03-2021 09:15:33 EDT

CHAPTER XXVI

DISARMAMENT

9. Treaty on the Prohibition of Nuclear Weapons

New York, 7 July 2017

Entry into force : 22 January 2021, in accordance with article 15.

Status : Signatories : 86. Parties : 54

# TPNW

- Preamble
- + 20 Articles
- Art. 1: Prohibitions: Develop, Transfer, Use, Assist, seek, Allow...
- Art. 2: Declarations: to submit UN Secretary General within 30 days
- Art. 3: Safeguards: maintain IAEA safeguards
- Art. 4: Towards the Total Elimination of NW: Cooperation
- Art. 5: National Implementations
- Art. 6: Victim Assistance and Environmental Remediation
- Art. 7: International Cooperation and Assistance: UN, Red Cross/Crescent

- Art. 8: Meeting of State Parties: regular, 1st meeting convened by UN Secr. Gen. Within 1 year. Implementation. Measures. Extraordinary Meetings. Conference after 5 years: State Parties, Red Cross, NGOs to be invited.
- Art. 9: Cost to be borne by State Parties
- Art. 10: Amendments may be proposed by any State Party
- Art. 11: Settlement of Disputes: according to Art. 33 of the Charter of UN
- Art. 12: Universality: „Each State Party shall encourage states not party to this treaty to sign, ratify, accept, approve, or accede to the treaty. =>> all states!
- Art. 13: signature: opened 20 Sept. 2017
- Art. 14: Ratification, accession, approval, acceptance
- Art. 15: Entry into Force
- Art. 16: Reservations: no
- Art. 17: Duration and withdrawal: unlimited duration;



- Art. 18: Relationship with other agreements: „shall not prejudice obligations undertaken by the State Parties with regard to existing international agreements...”
- Art. 19: Depositary : Secretary General of the UN
- Art. 20: Authentic Texts.

# What now?

- Education
- Creating further coalitions
- N: elections this fall
- SF: left-green government might sign
- S: no chance at present („unfriendly act“)
- NL: discussion in parliament
- Overcoming „the believe in deterrence“
- Austria's role
- Review Conference

<https://www.dw.com/en/exclusive-germanys-heiko-maas-criticizes-uk-plans-to-expand-nuclear-arsenal/a-56918456> retr. 22. march2021

# Exclusive: Germany's Heiko Maas criticizes UK plans to expand nuclear arsenal

The foreign minister says the UK's decision to expand its nuclear stockpile goes against disarmament efforts. He sat down with DW's Chief International Editor Richard Walker in Berlin to talk about this and other issues.

# Atomkrieg

- Explosion vieler Atombomben
- Ende der Zivilisation in betroffenen Ländern
- Radioaktive Verstrahlung ganzer Kontinente
- Anhaltende großräumige Umweltschäden
- Nuklearer Winter => Hungerkatastrophen

## 2015 ESTIMATED GLOBAL NUCLEAR WARHEAD INVENTORIES

The world's nuclear-armed states possess a combined total of roughly 16,000 nuclear warheads; more than 90 percent belong to Russia and the United States. Approximately 10,000 warheads are in military service, with the rest awaiting dismantlement.



Sources: Hans M. Kristensen, Robert S. Norris, and U.S. Department of State. Updated: October 13, 2015.

Arms Control  
Association