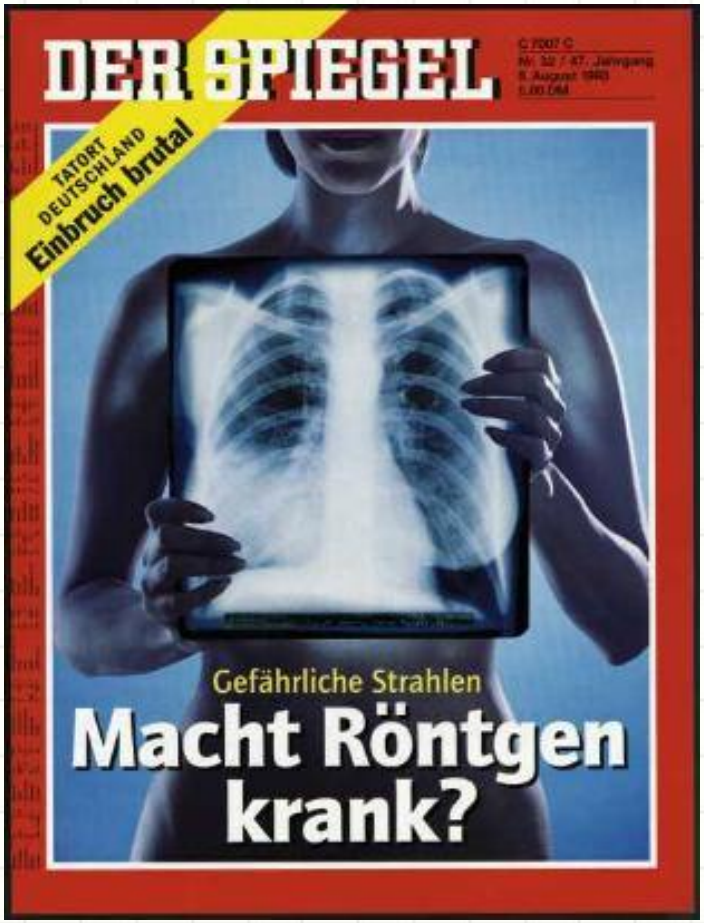
Risikoabschätzung bei CT Untersuchungen – eine FARCE

Univ. Prof. Dr. Anton Staudenherz

15.09.2012

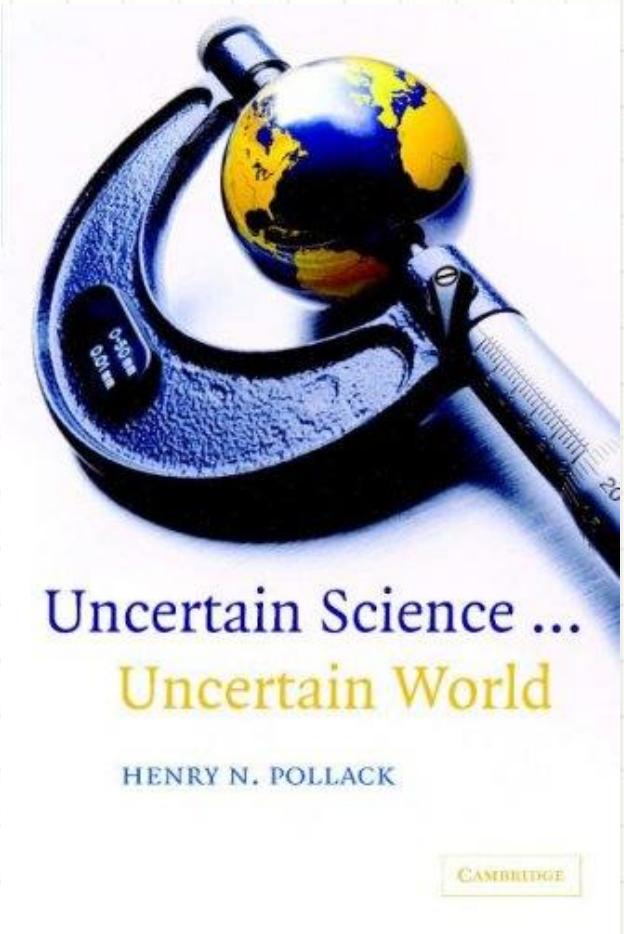
durch unangemessene Herangehensweise abgewerteter Vorgang



Machen Sie sich selbst ein

BILD

Messungen OHNE Angabe der Unsicherheit sind ***UNSINN***



Orientierung für medizinischen Strahlenschutz

- Lernen Sie Ihr neues Aufgabengebiet kennen
- Machen Sie sich mit Ihrer Umgebung vertraut
- Lernen Sie zu kommunizieren

Budgetdefizit und Medizin

Ausgaben für nichtinvasive Diagnostik um 21% gesunken!

The Sharp Reductions in Medicare Payments for Noninvasive Diagnostic Imaging in Recent Years: Will They Satisfy the Federal Policymakers?

David C. Levin, MD[a,b], Vijay M. Rao, MD[a], Laurence Parker, PhD[a], Andrea J. Frangos, MS[a]

Purpose: The aim of this study was to examine recent trends in Medicare reimbursements for noninvasive diagnostic imaging (NDI).

Methods: The Medicare Part B databases for 2000 to 2010 were used. For each procedure code, these files provide payment and other data. All NDI codes were selected. Medicare physician specialty codes were used to identify radiologists, cardiologists, all other nonradiologist physicians as a group, and independent diagnostic testing facilities. Part B NDI payment trends were tracked.

Results: Overall Part B spending for NDI rose from $5.921 billion in 2000 to $11.910 billion in 2006 (+101%). There was then a sharp drop in 2007, resulting from the implementation of the Deficit Reduction Act. This was followed by a slight rise in 2008, then successive smaller drops the next 2 years, reaching $9.457 billion in 2010 (−21% vs 2006). Radiologists' payments were $2.936 billion in 2000, rose to a peak of $5.3 billion in 2006 (+81%), then dropped to $4.712 billion in 2010 (−11% vs 2006). Cardiologists' NDI payments were $1.327 billion in 2000, peaking at $2.998 billion in 2006 (+126%), then dropping to $1.996 billion in 2010 (−33% vs 2006). Other physicians' payments were $1.106 billion in 2000, peaking at $2.378 billion in 2006 (+115%), then dropping to $1.968 billion in 2010 (−17% vs 2006). Similar trends occurred in independent diagnostic testing facilities.

Conclusions: After years of rapid growth in Medicare NDI payments, an abrupt reversal occurred starting in 2007. By 2010, overall NDI costs to Medicare Part B were down 21% compared with their 2006 peak. It is unclear whether this large payment reduction will satisfy federal policymakers.

Key Words: Medical economics, noninvasive diagnostic imaging, imaging reimbursement, radiology and radiologists, socioeconomic issues, Deficit Reduction Act

J Am Coll Radiol 2012;9:643-647.

Kosten und Strahlenexposition Reduktion durch elektronische Bildübermittlung

Using the Internet for Image Transfer in a Regional Trauma Network: Effect on CT Repeat Rate, Cost, and Radiation Exposure

Patrick T. Flanagan, MD, Annemarie Relyea-Chew, JD, MS, Joel A. Gross, MD, MS, Martin L. Gunn, MBChB

Abstract | Full Text | PDF | Images | References

Purpose

The aims of this study were to evaluate an Internet-based and compact disc-based image transfer system and to compare this system with others in the literature, specifically regarding effects on repeat imaging rate, cost, and radiation dose to patients transferred to a level I regional trauma center.

Methods

Five hundred consecutive trauma patients transferred to a level I trauma center between June 1 and July 15, 2009, were included in the study. Images were transferred from an outside facility to the trauma center using the Internet and compact discs and uploaded to the trauma center's PACS. Radiographic studies and CT scans at the trauma center were classified as outside studies, completion studies, or repeat studies. Repeat rate, costs, and radiation doses of transferred and repeated CT scans were calculated.

Results

Four hundred ninety-one patients met the inclusion criteria. The patients' average age was 40.5 years, and 70% were men. The average Injury Severity Score was 14.7. Three hundred eighty-three patients had 852 CT studies and 380 nonextremity radiographs imported into the trauma center's PACS. At the trauma center, 494 completion CT scans and 2,924 radiographic studies were performed on these patients. Sixty-nine repeat CT scans were performed on 55 patients, equalling a 17% repeat rate. The total value of imported CT studies was $244,373.69. Repeat imaging totaled $20,495.95, or $84.65 per patient with transferred CT studies.

Conclusions

Using a combination of the Internet and compact discs to transfer images during inter-hospital transfer is associated with much lower repeat rates than those in the literature, suggesting that regional PACS networks may be useful for reducing cost and radiation exposure associated with trauma.

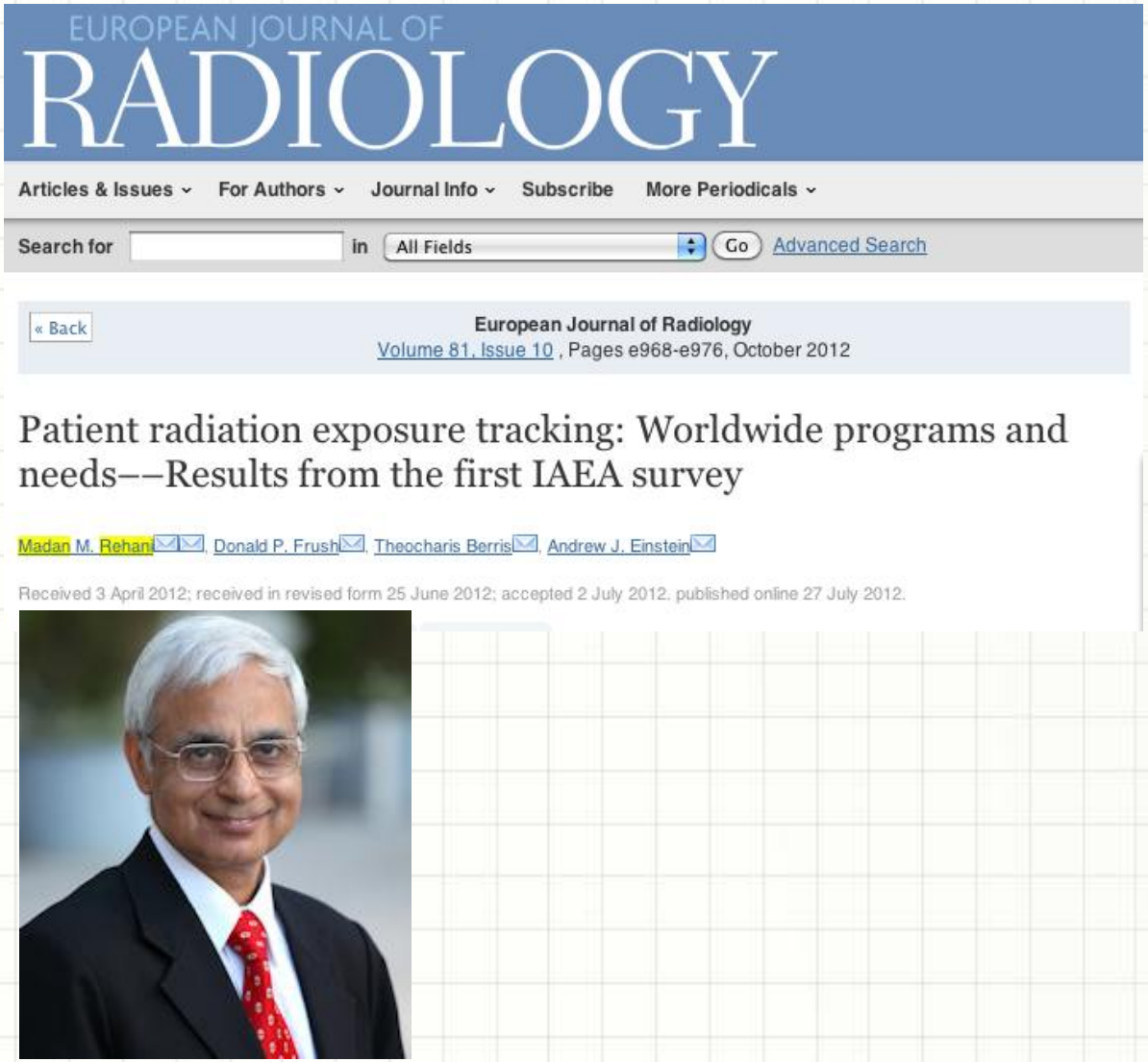
radiation tracking – but no programs

99% der befragten Länder hätten Interesse an einem Programm zur Aufzeichnung der Strahlenexposition

11% (=8) planen aktiv ein solches Programm umzusetzen

Ziele:

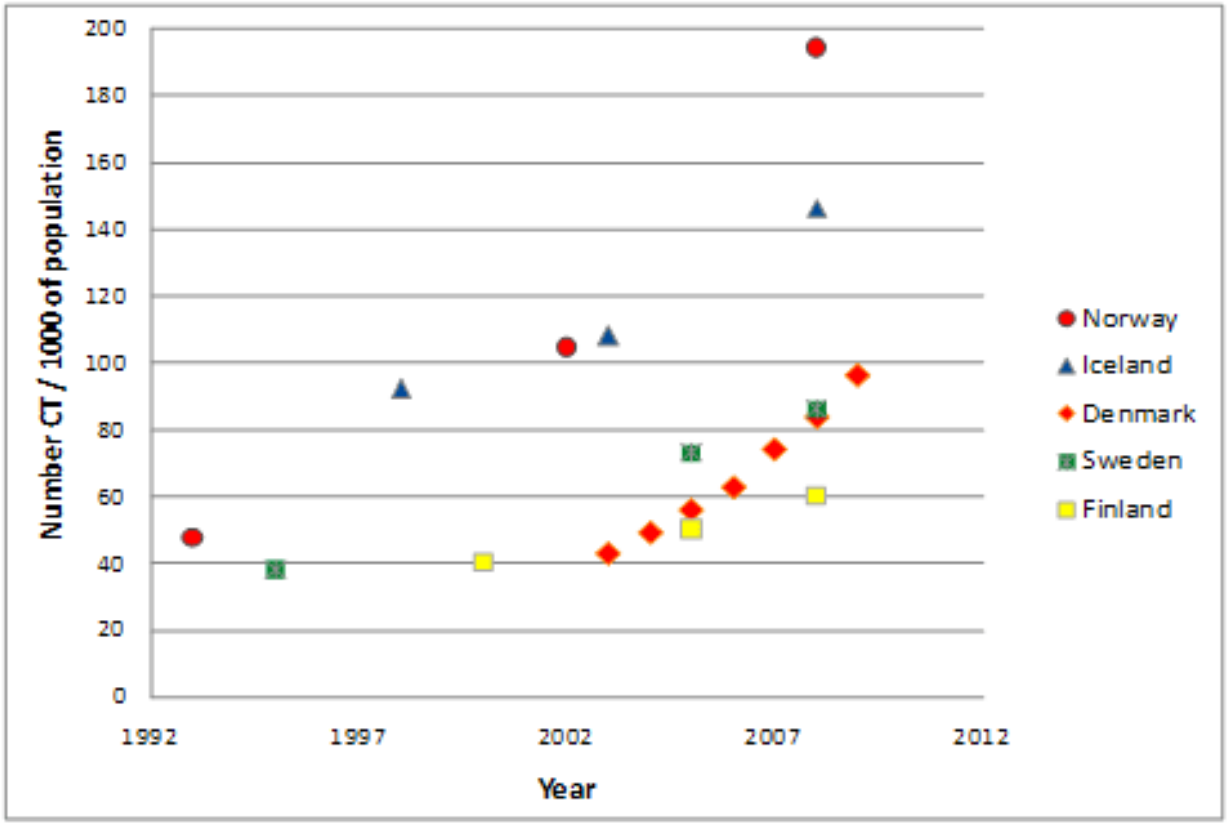
- Qualitätssicherung und –verbesserung
- politische Entwicklung
- Zertifizierung, Regulation
- Bevölkerungsdosis
- Unterstützung bei der Überweisung

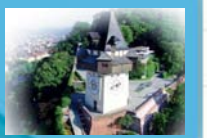


Aufzeichnung der Expositionsdaten

Computertomographie

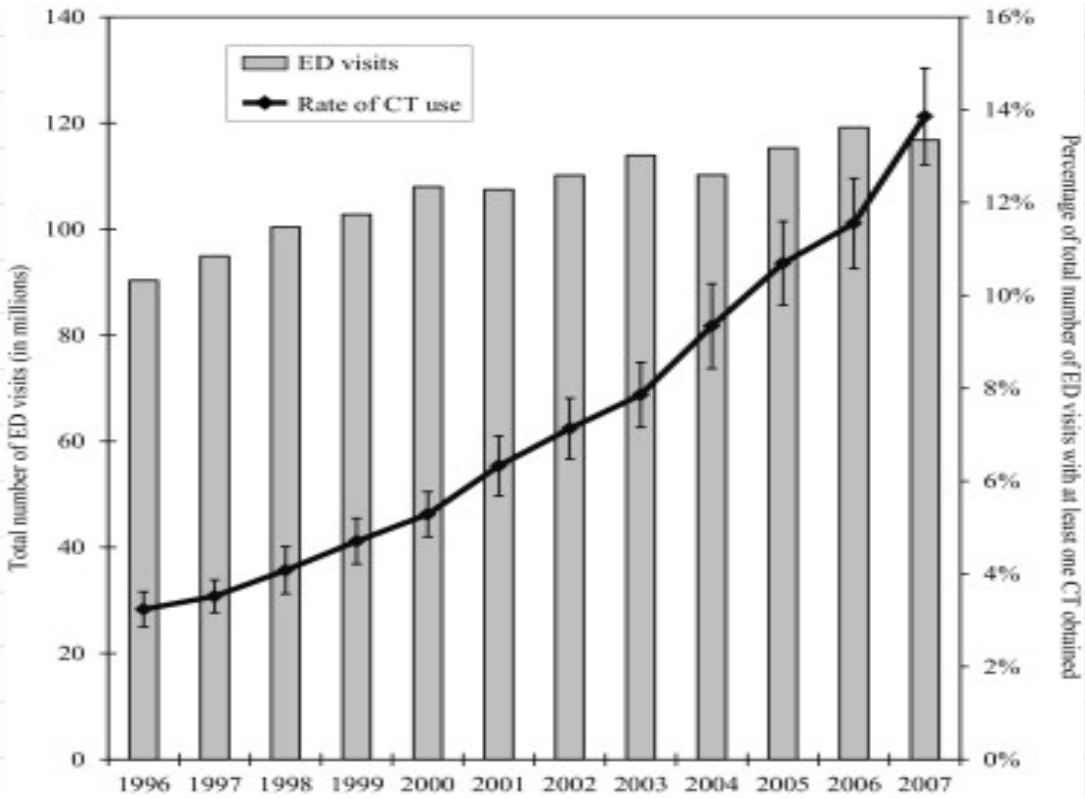
Technologie-Kurve



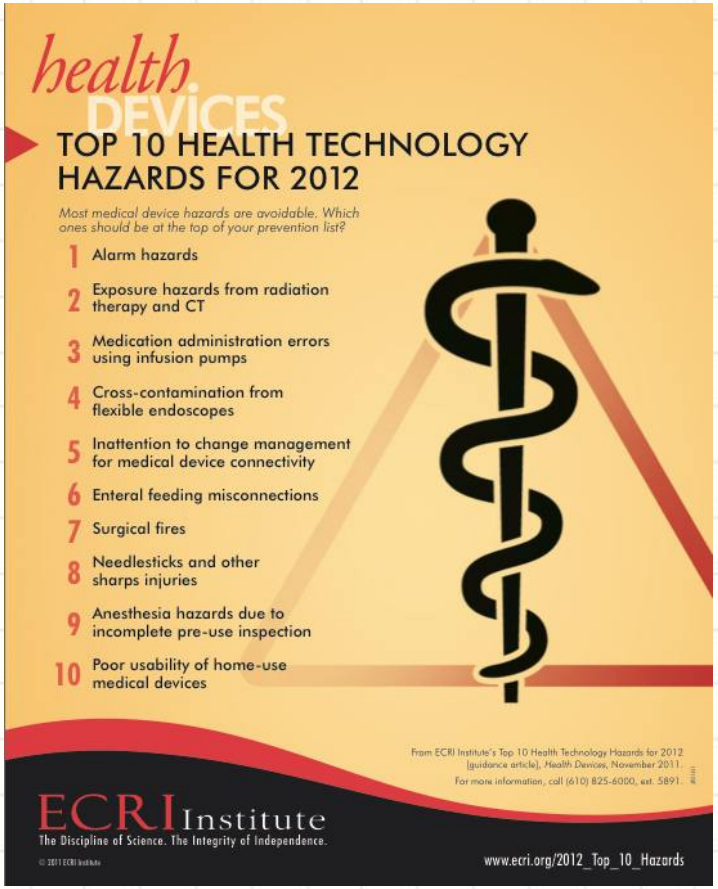


National Trends in Use of Computed Tomography in the Emergency Department

Keith E. Kocher, MD, MPH, William J. Meurer, MD, MS, Reza Fazel, MD, MSc, Phillip A. Scott, MD,
Harlan M. Krumholz, MD, SM, Brahmajee K. Nallamothu, MD, MPH

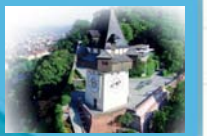



FOCUS-MONEY FOCUS TV FOCUS-SCHULE FOCUS Magazin Heft-Abo
Meine Themen Wetter Mobil RSS Schlagzeilen Facebook Twitter Google+ Über uns
ONLINE FOCUS
Home Politik Finanzen Wissen Gesundheit Kultur Panorama Sport Digital Reisen Auto Immobilien Video
Suche
Login Registrieren
» News » Ratgeber » Gesund leben » Ernährung » Schwangerschaft & Kind » Arzt & Klinik » Tests » Coaches
headlines.
Society
Economy
Ecology
NATIONAL AND INTERNATIONAL HEADLINE NEWS
Fotos



Univ. Prof. Dr. Staudenherz© *15. September 2012*

VMSÖ Jahrestagung 2012



40% der Allgemeinmediziner
70% der FÄ f. Frauenheilkunde

empfahlen eine Schwangerschaftsunterbrechung(!) bei Frauen die einer diagnostischen Bildgebung in der Frühschwangerschaft ausgesetzt waren

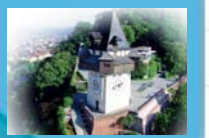
Physicians' Perceptions of Teratogenic Risk Associated with Radiography and CT During Early Pregnancy

Savithiri Ratnapalan[1,2]
Nicole Bona[2]
Kiran Chandra[2]
Gideon Koren[2]

OBJECTIVE. The objective of our study was to determine family physicians' and obstetricians' perceptions of the risk of major fetal malformations associated with exposure to radiation from radiography and CT during early pregnancy.

MATERIALS AND METHODS. Structured questionnaires were sent to 400 family

AJR:182, May 2004



„Vorsicht beim zitieren!“

CMAJ March 8, 2011 vol. 183 no. 4 First published February 7, 2011, doi: 10.1503/cmaj.100463

Research

Cancer risk related to low-dose ionizing radiation from cardiac imaging in patients after acute myocardial infarction

Mark J. Eisenberg, MD MPH, Jonathan Afilalo, MD MSc, Patrick R. Lawler, MD, Michal Abrahamowicz, PhD, Hugues Richard, MSc, Louise Pilote, MD MPH PhD

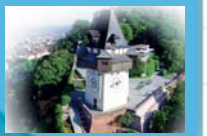
The Lancet, Volume 380, Issue 9840, Pages 499 - 505, 4 August 2012
doi:10.1016/S0140-6736(12)60815-0 Cite or Link Using DOI

< Previous Article | Next Article >

This article can be found in the following collections: Oncology (Cancer epidemiology & prevention & control, Paediatric cancer); Paediatrics (Paediatric cancer)
Published Online: 07 June 2012

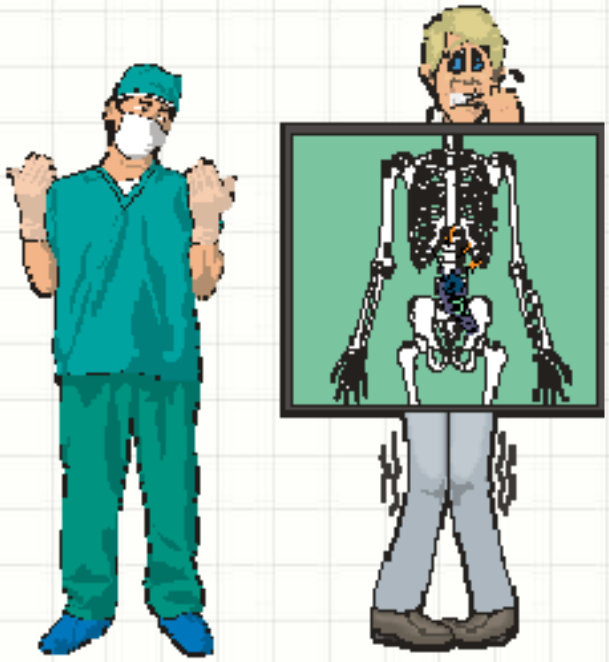
Radiation exposure from CT scans in childhood and subsequent risk of leukaemia and brain tumours: a retrospective cohort study

Dr Mark S Pearce PhD, Jane A Salotti PhD, Mark P Little PhD, Kieran McHugh FRCR, Choonsik Lee PhD, Kwang Pyo Kim PhD, Nicola L Howe MSc, Cecile M Ronckers PhD, Preetha Rajaraman PhD, Alan W Craft MD, Louise Parker PhD, Amy Berrington de González DPhil



Zuweiser/Kollegen: „Strahlenbelastung?!?“

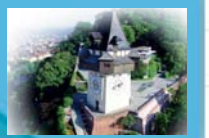
radiation exposure – radiation burden



~~Strahlenbelastung~~

Dieses Wort setzt eine schädigende Wirkung voraus!

DER NIEDRIGSTE SCHWELLENWERT FÜR DETERMINISTISCHE EFFEKTE IONISIERENDER STRAHLUNG IST MIT 50 mSV ANGEGEBEN!



Radiation Effects Research Foundation
A Cooperative Japan-US Research Organization

RADIATION RESEARCH **177**, 229–243 (2012)
0033-7587/12 $15.00

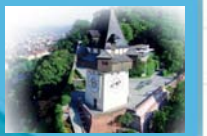
DOI: 10.1667/RR2629.1

Life Span Study

Studies of the Mortality of Atomic Bomb Survivors, Report 14, 1950–2003: An Overview of Cancer and Noncancer Diseases

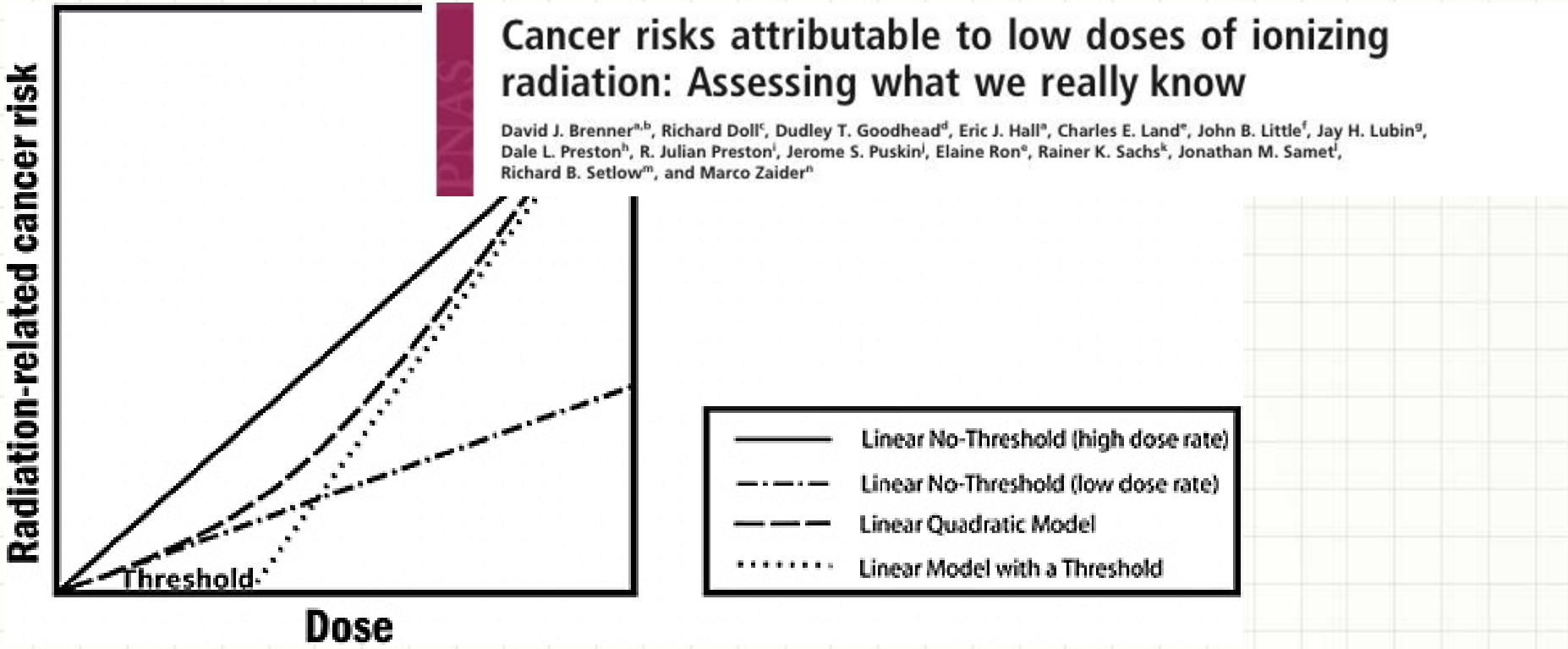
Kotaro Ozasa,[a,1] Yukiko Shimizu,[a] Akihiko Suyama,[a] Fumiyoshi Kasagi,[a,b] Midori Soda,[a] Eric J. Grant,[a] Ritsu Sakata,[a] Hiromi Sugiyama[a] and Kazunori Kodama[c]

[a] *Department of Epidemiology and* [c]*Chief Scientist, Radiation Effects Research Foundation, 5-2 Hijiyama-koen, Minami-ku, Hiroshima, 732-0815, Japan; and* [b] *Institute of Radiation Epidemiology, Radiation Effects Association 1-9-16, Kaji-cho, Chiyoda-ku, Tokyo, 101-0044, Japan*



linear no-threshold model

The committee finds LNT model to be a computationally convenient starting point.

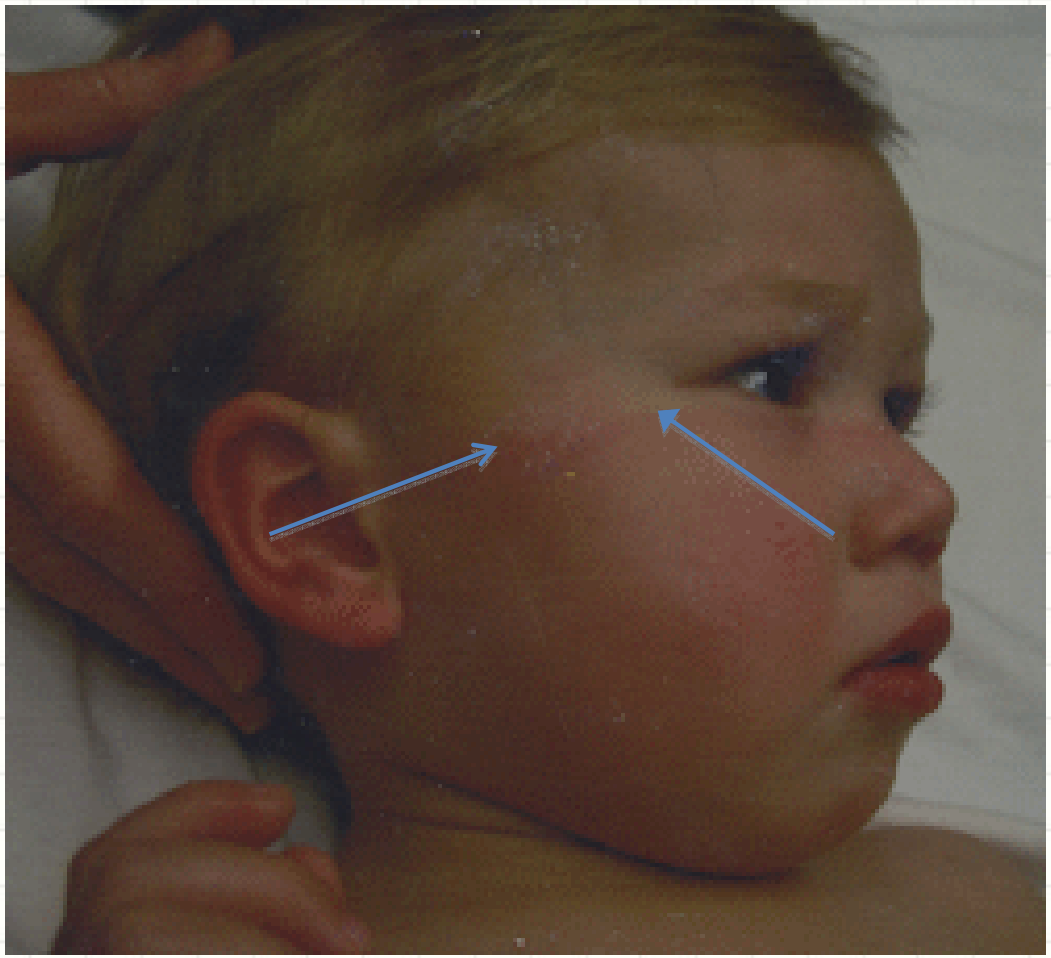


Cancer risks attributable to low doses of ionizing radiation: Assessing what we really know

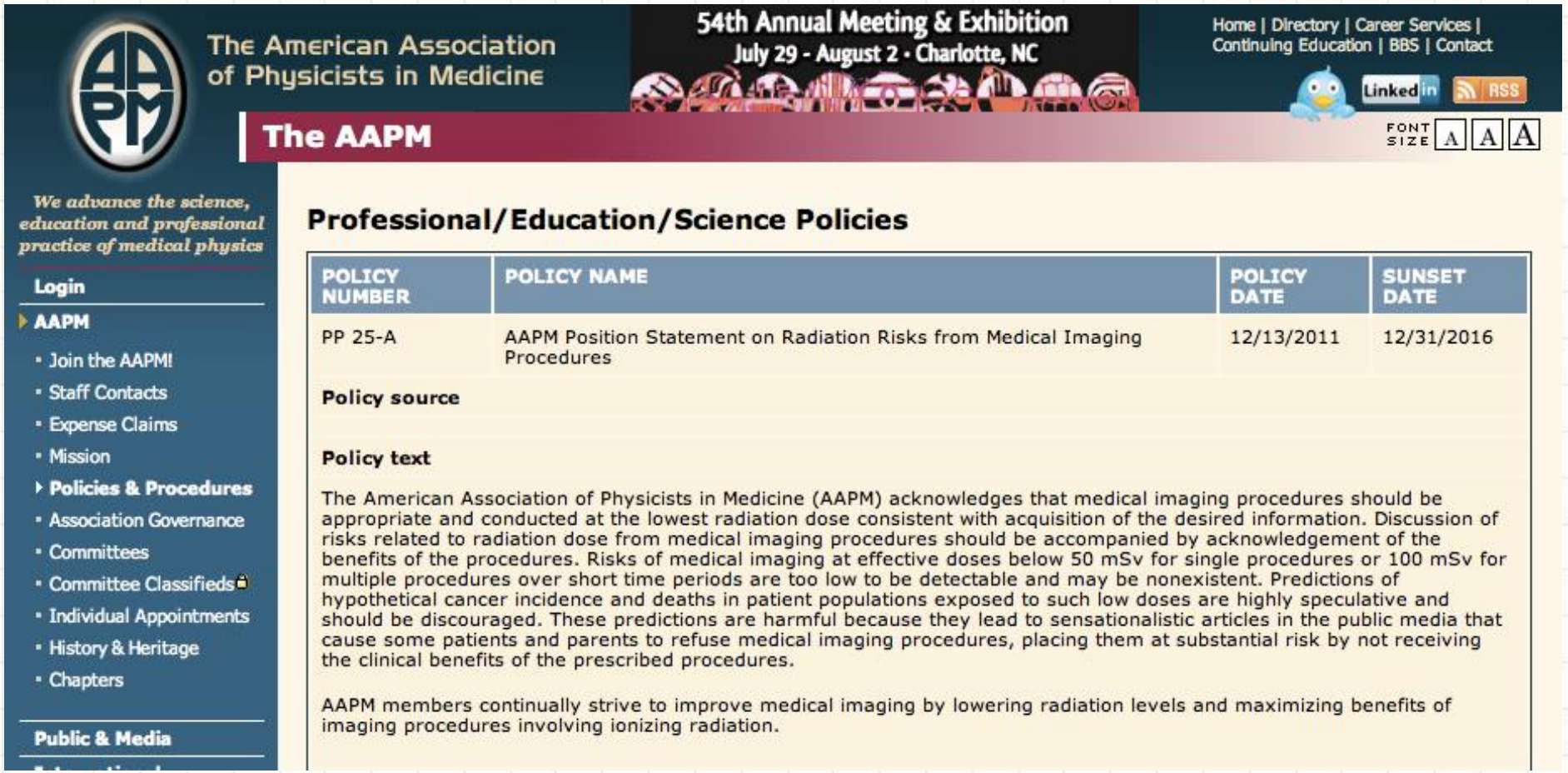
David J. Brenner[a,b], Richard Doll[c], Dudley T. Goodhead[d], Eric J. Hall[a], Charles E. Land[e], John B. Little[f], Jay H. Lubin[g], Dale L. Preston[h], R. Julian Preston[i], Jerome S. Puskin[j], Elaine Ron[e], Rainer K. Sachs[k], Jonathan M. Samet[l], Richard B. Setlow[m], and Marco Zaider[n]

Fall: JR, 5 Jahre

151 CT Scans in ca. 1 Stunde



Voraussagen sind gefährlich und führen zu sensationsheischenden Artikeln!



The American Association of Physicists in Medicine

54th Annual Meeting & Exhibition
July 29 - August 2 · Charlotte, NC

Home | Directory | Career Services | Continuing Education | BBS | Contact

The AAPM

We advance the science, education and professional practice of medical physics

Login

- AAPM
  - Join the AAPM!
  - Staff Contacts
  - Expense Claims
  - Mission
  - Policies & Procedures
  - Association Governance
  - Committees
  - Committee Classifieds
  - Individual Appointments
  - History & Heritage
  - Chapters
- Public & Media

Professional/Education/Science Policies

POLICY NUMBER	POLICY NAME	POLICY DATE	SUNSET DATE
PP 25-A	AAPM Position Statement on Radiation Risks from Medical Imaging Procedures	12/13/2011	12/31/2016

Policy source

Policy text

The American Association of Physicists in Medicine (AAPM) acknowledges that medical imaging procedures should be appropriate and conducted at the lowest radiation dose consistent with acquisition of the desired information. Discussion of risks related to radiation dose from medical imaging procedures should be accompanied by acknowledgement of the benefits of the procedures. Risks of medical imaging at effective doses below 50 mSv for single procedures or 100 mSv for multiple procedures over short time periods are too low to be detectable and may be nonexistent. Predictions of hypothetical cancer incidence and deaths in patient populations exposed to such low doses are highly speculative and should be discouraged. These predictions are harmful because they lead to sensationalistic articles in the public media that cause some patients and parents to refuse medical imaging procedures, placing them at substantial risk by not receiving the clinical benefits of the prescribed procedures.

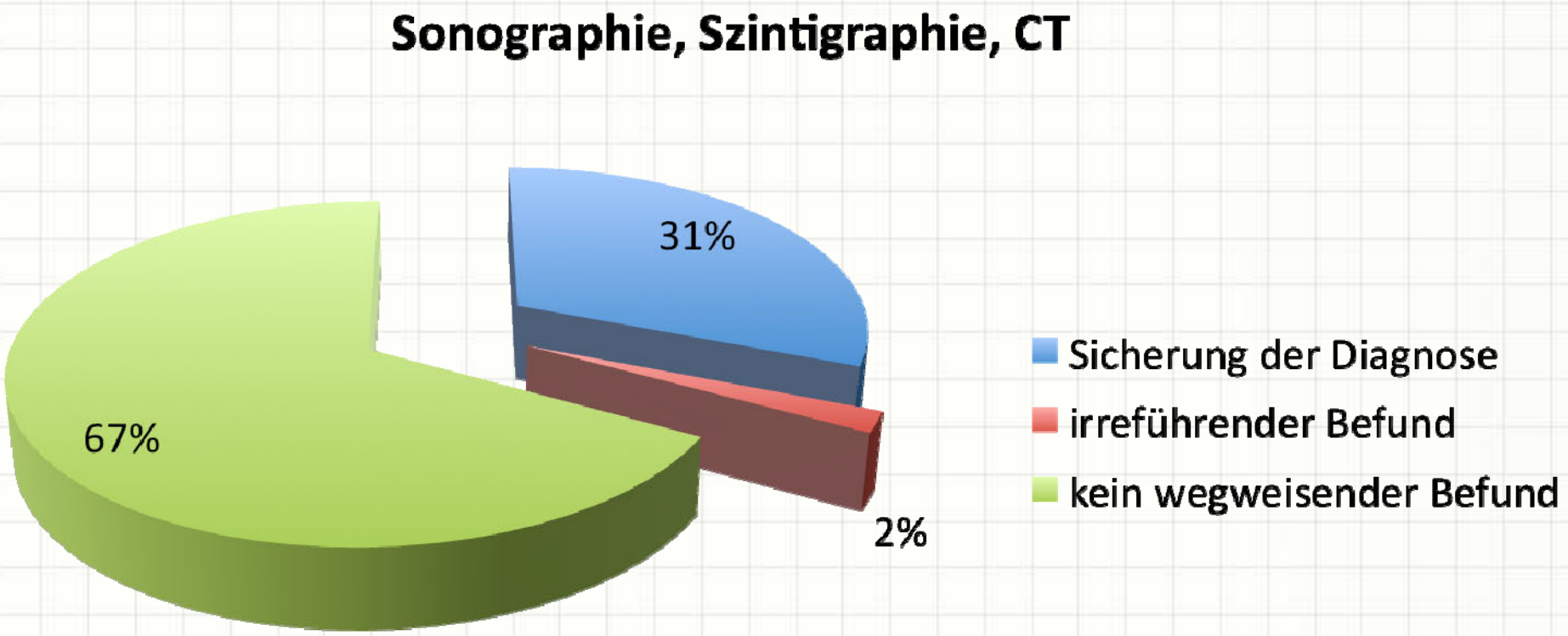
AAPM members continually strive to improve medical imaging by lowering radiation levels and maximizing benefits of imaging procedures involving ionizing radiation.

„So Gering Wie Möglich“

CAVE:
MINIMUM AN AKTIVITÄT
für adäquate Qualität

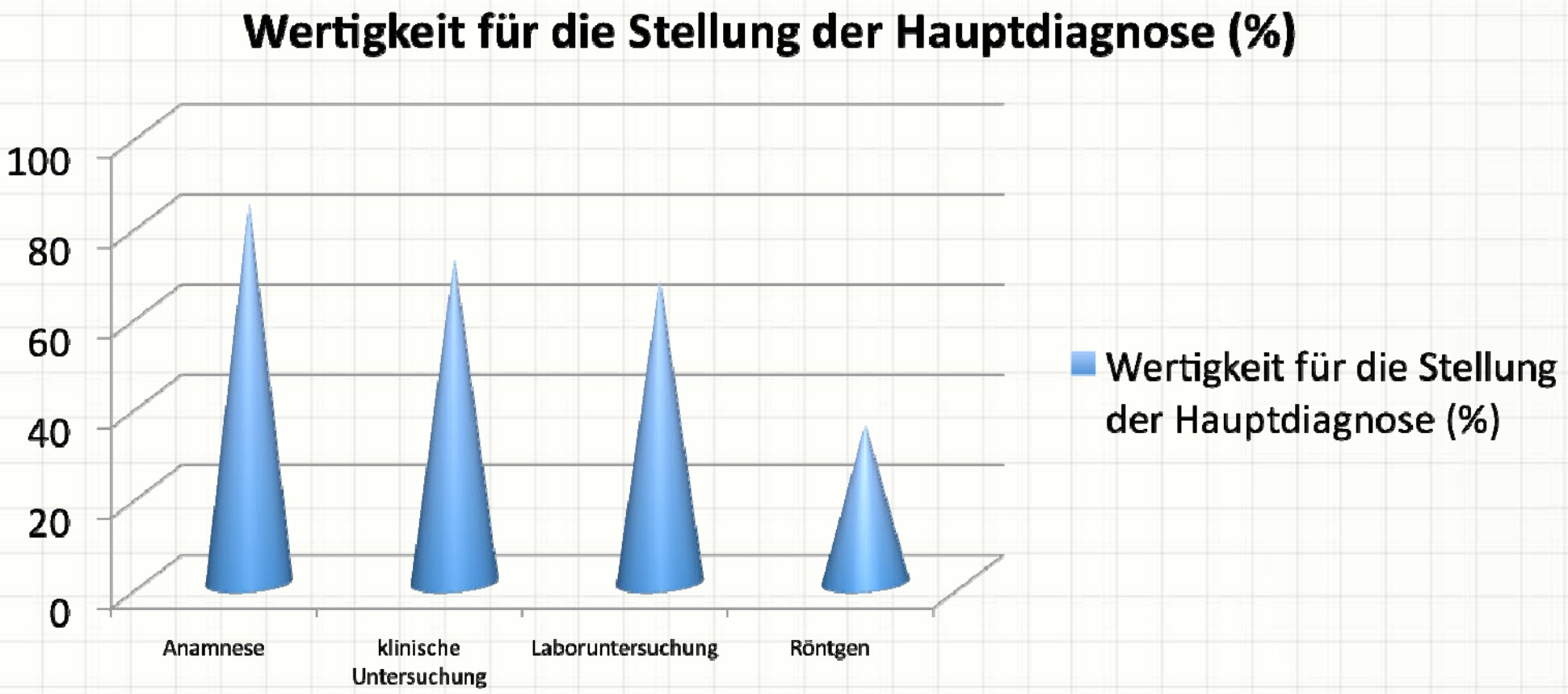
Bildqualitätsverlust durch Dosisreduktion!

Wertigkeit verschiedener apparativer Verfahren für die definitive Dignosestellung



Goldman L. et al. NEJM 1983; 28:1000-1005

Beitrag verschiedener diagnostischer Methoden zur Stellung der Hauptdiagnose



Kirch W. et al. J Public Health 2004

Rechtfertigung

- Artikel 3: *Rechtfertigung*

Die medizinischen Expositionen … MÜSSEN insgesamt einen hinreichenden Nutzen erbringen, wobei ihr Gesamtpotential an diagnostischem oder therapeutischem Nutzen, …

Richtlinie 97/43/Euratom des Rates über den Gesundheitsschutz von Personen gegen die Gefahren ionisierender Strahlung bei medizinischer Exposition und zur Aufhebung der Richtlinie 84/466/Euratom

Vom 30. Juni 1997 (ABl. EU Nr. C 167)

BUNDESGESETZBLATT

FÜR DIE REPUBLIK ÖSTERREICH

Jahrgang 2006 | Ausgegeben am 22. Mai 2006 | Teil II

191. Verordnung: Allgemeine Strahlenschutzverordnung – AllgStrSchV [CELEX-Nr. 31996L0029, 31990L0641, 32003L0122]

BUNDESGESETZBLATT

FÜR DIE REPUBLIK ÖSTERREICH

Jahrgang 2004 | Ausgegeben am 28. Oktober 2004 | Teil II

409. Verordnung: Medizinische Strahlenschutzverordnung - MedStrSchV

Indikation – Zuweisung – Befund

	Skelett-szintigraphie		Herz-szintigraphie		Lungen-szintigraphie		ZNS		Diverses		PET/CT		PET	
	absolut	%	absolut	%	absolut	%	absolut	%	absolut	%	absolut	%	absolut	%
Wie oft durchgeführt?	529	40,0	202	15,3	77	5,8	78	5,9	169	12,7	180	13,5	94	7,0
Zuweisung			183	90,1	61	79,2	76	97,4	137					
Fragestellung	396	74,9	155	76,4	64	83,1	50	64,1	119	70,4	115	63,9	70	74,5
Leserlich			178	87,7	72	93,5	68	87,2	143					
Handschriftlich	496	93,8	201						166	98,2	169	93,9	92	97,9
Erreichbarkeit	374	70,7	144	70,9	60	77,9	49	62,8	122	72,2	166	92,2	67	71,3
Name leserlich	337	63,7	130	64,0	48	62,3	51	65,4	131	77,5	147	81,7	63	67,0
Interner Zuweiser	499	94,3	201	99,0	77	100	73	93,6	159	94,1	157	87,2	90	95,7
Zusatzinformation	149	28,2	99	48,8	36	46,8	26	33,3	51	30,2	123	68,3	58	61,7

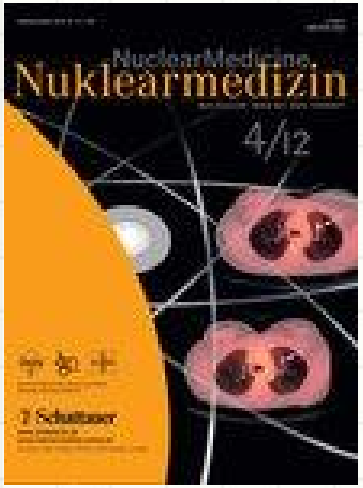
In 27% fehlte die Fragestellung!

 1

Zuweisungen in der nuklearmedizinischen Diagnostik

Retrospektive Analyse

P. Ubl; L. Ringhofer; P. Dolliner; A. Staudenherz
Abteilung für Nuklearmedizin, Medizinische Universität Wien, Österreich



Die drei goldenen Regeln!

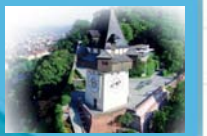
- Gibt es Alternativen?

- Was mach ich mit dem Ergebnis wenn die Untersuchung POSITIV ausfällt?

- Was mach ich mit dem Ergebnis wenn die Untersuchung NEGATIV ausfällt?

Zusammenfassung

- Definieren Sie die Schwächen
  - Klarstellung der Unsicherheiten
- Wecken Sie realistische Erwartungen
  - Individuelle Voraussagen sind spekulativ
- Behalten Sie das Ziel im Auge
  - Epidemiologie darf nicht zum Selbstbedienungsladen für Panikmacher sein



MAN SOLL KEINE DUMMHEIT ZWEIMAL BEGEHEN, DIE AUSWAHL IST SCHLIEßLICH GROß GENUG.

JEAN-PAUL SARTRE

Fragen?