

**Ist eine Szintigrafie/PET in  
Anbetracht der Strahlenbelastung  
und der biol. verträglicheren  
Stressechokardiographie und MRI  
noch indiziert?**

**Thomas Leitha**

Donauspital Wien, Vorst. d. Abtlg. f. nuklearned. Diagnostik und Therapie

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The

**Wrong question**

Donat... nuk... med. Diagnostik und Therapie

# Sind Strahlen das EINZIGE RISIKO?



U.S. Food and Drug Administration



U.S. Department  
of Health and  
Human Services

FOR IMMEDIATE RELEASE

P07-90

May 23, 2007

*FDA News*

**Media Inquiries:**

Karen Riley, 301-827-6242

**Consumer Inquiries:**

888-INFO-FDA

**FDA Requests Boxed Warning for Contrast Agents Used to Improve MRI Images**

## U.S. FDA to alert doctors about imaging drugs' risks

**REUTERS**  WASHINGTON (Reuters), Oct 9

HEALTH INFORMATION

WASHINGTON (Reuters), Oct 9 - U.S. regulators will soon alert doctors about reports of deaths and serious reactions following the use of certain imaging agents to help diagnose heart problems, Food and Drug Administration (FDA) officials said on Monday. The contrast agents, Bristol-Myers Squibb Co's Definity and General Electric Co's Optison, are used in echocardiography. The FDA has been investigating reports of deaths and serious cardiopulmonary reactions after people were injected with either of the products.

10/9/2007

# RADIATION PROTECTION

**INDIKATION**

**LOKALE EXPERTISE**

**PROGNOSE**

*Und vergessen Sie ..... Gy und Sv !!!*

# STRAHLENEXPOSITION

TI-201 (110 MBq)	23,2 mSv
Stress Tc-99m (740 MBq)	6,3 mSv
Stress/Rest Tc-99m (1200 MBq)	10,3 mSv
+ Gd-153 (4 GBq total) Transmission:	0,11 mSv
+ low dose CT:	0,9 -0,36 mSv

*A.J. Einstein*

*Circulation. 2007;116:1290-1305*

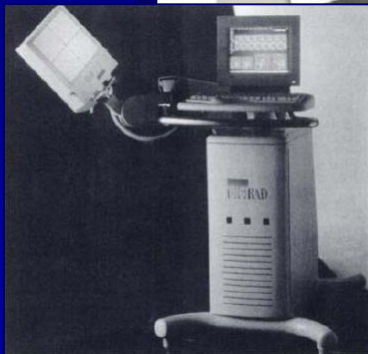
- **99mTc** agents preferred when possible in SPECT
- Consider **stress-first/stress-only** protocol for patients with low pretest
- **Probability** of stress perfusion defect
- *Minimize activity (mCi) to that needed to obtain good image quality with high degree of confidence*
- *Consider lower activity (mCi) in smaller patients*
- For CT attenuation correction, minimize tube current
- Hydrate after imaging and encourage early micturition

# MESSTECHNIK



*z.B.: XACT Digirad*

- Triple-head system solid-state detectors 27" (69 cm) FOV detector arc
- Low dose volume CT transmission-based (AC) 160 kVp and 2.0 mA ( $\sim 5 \mu\text{Sv}$ )



Digirad 2020/c Imager (FDA June 1997)

# Myokardszintigraphie: Hohe Strahlenbelastung durch Mehrfachtests

- New York – US-Mediziner warnen vor der Strahlenbelastung durch die Myokardszintigraphie, die bereits 10 Prozent der Gesamtexposition ausmache. Studie in **JAMA (2010; 304: 2137-2144)** deckt auf, dass nicht wenige Patienten mehrfach untersucht werden.



# RADIATION PROTECTION

**INDIKATION**  
**LOKALE EXPERTISE**  
**PROGNOSE**  
**METHODOLOGIE**  
**LOGISIK**

*Und vergessen Sie ..... Gy und Sv !!!*