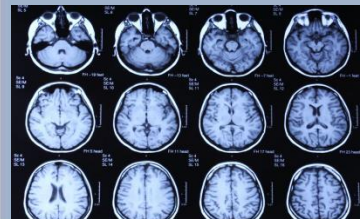




Appropriateness of MRI in Austria:

Identification of overuse

Congress: Preventing overdiagnosis
Claudia Wild & Robert Emprechtinger
Robert.emprechtinger@hta.lbg.ac.at





structure

- Why this topic
- How we approach it
- What we found/ find
- Next steps/ way forward





WHY this topic:

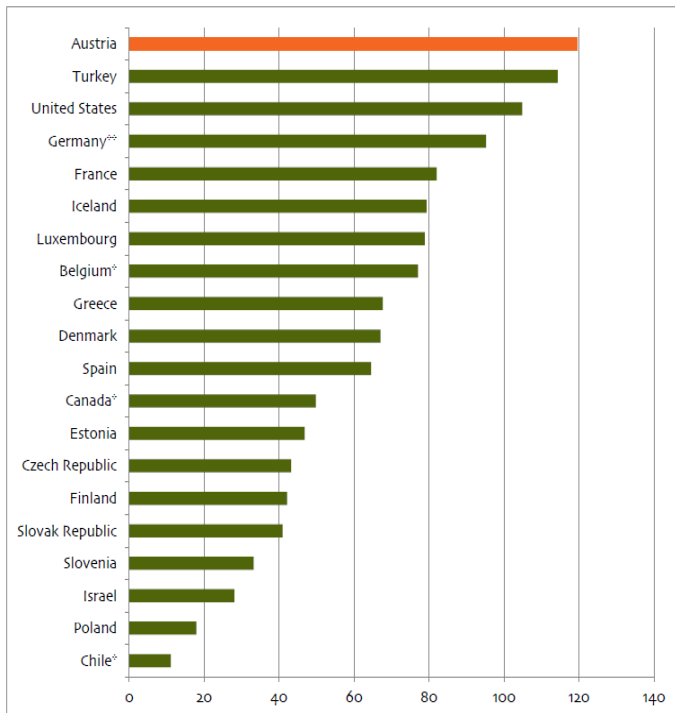
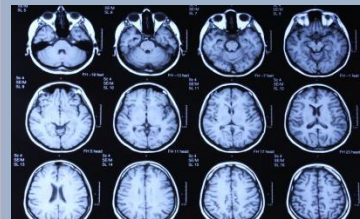
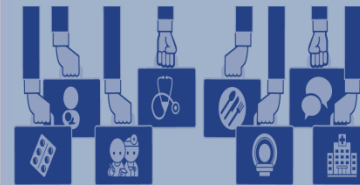


Figure 2.3-6: Total MRI exams per 1000 population in OECD countries (2012 or nearest year)
(Sources: Own presentation with data from OECD health statistics [53] * Nearest year 2011; ** Nearest year 2009. Only countries were included where available data covered hospitals and outpatients setting.)

Austria Nr 1 in number of MRI exams per 1,000 population.

In 2011, the OECD average: 55.5 exams per 1,000 pop.

Austria 119 MRI per 1,000 pop (2012).





How we approach it: since 2014

Multimethod-approach

- ❖ Screening of “disinvestment” databases & recommendations from “appropriate radiology guidelines” → comparison to the Austrian “Orientation Guideline for Radiology” (OGR) -2014
- ❖ Literature Review: Tools and strategies for utilisation management of MRI -2014
- ❖ Semi-structured interviews with stakeholders- 2014
- ❖ Analysis of Evidence Based Clinical Diagnostic Pathways in selected indications - 2015
- ❖ Literature Review on methods to identify MRI overuse – 2016/ongoing
- ❖ Correlation Analysis between N-MRI to N-elective interventions – 2016/ongoing
- ❖ Data analysis: practice variation (MRI, elective interventions, etc.) – 2016/ planned





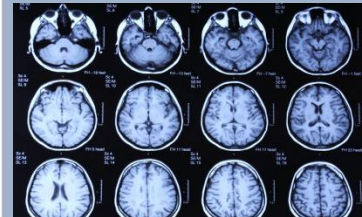
Background – What is inappropriate?

Inappropriate procedures:

*... are unlikely to be indicated in specific clinical settings, or the **risk-benefit ratio for patients is likely to be unfavorable**².*

The chief causes of the wasteful use of radiology are³:

- ❖ Repeating investigations which have **already been done**
- ❖ Investigation when results are **unlikely to affect patient management**
- ❖ Investigating **too often**
- ❖ Doing the **wrong** investigation
- ❖ Failing to provide **appropriate clinical information and questions** that the imaging investigation should answer
- ❖ **Over-investigating**





What we found 1/4

Recommendations against MRI

- Databases: Choosing Wisely etc.
- ACR (American College of Radiology) Appropriateness Criteria® (AC)
- American College of Cardiology Foundation (ACCF)- Appropriate Use Criteria (AUC) – including imaging
- CAR Diagnostic Imaging Referral Guidelines
- = A total of 293 recommendations have been identified. **253 recom relating to the inappropriate use of MRI and advanced medical imaging.**
- National Recommendations (Orientierungshilfe Radiologie: **match in large parts, differences** in 10 conditions (only).





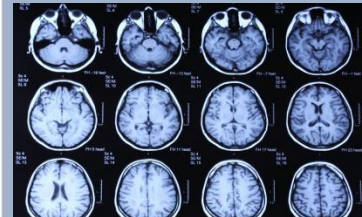
What we found 2/4

Literature Review: Tools and strategies

- **Educational interventions:** Referrers (Development, dissemination and implementation of referral guidelines; Decision support tools (electronic)); Addressing Patient demand.
- **Structural and organisational interventions:** Revision of professional roles (Shift from “Radiologist production model” to “Radiologist professional model”; Clinical multidisciplinary teams; Communication and case discussion by distance; Changes in medical record systems; Quality monitoring)
- **Financial and regulatory intervention:** Fixed payment schemes; Pay per performance; Radiology Benefits management.

Stakeholder Interviews: Tools and strategies

- See above





What we found 3/4

Focus “High Frequency indications”: Clinical Diagnostic Pathways for chronic back-pain, knee, shoulder, hip, head, ankle

- Recommendations from AWMF-S3-Guidelines (if available)
- Evidence tables, narrative and rating table from ACR Appropriateness Criteria
- Diagnostic algorithm from Western Australia Diagnostic Imaging Pathways (or similar)

= Recommendations for pre-conditions and diagnostic work-up





Example: Non-traumatic Knee

2nd line !

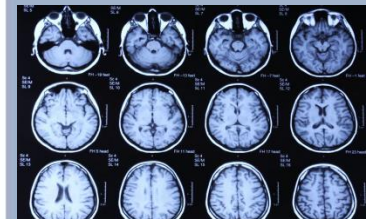
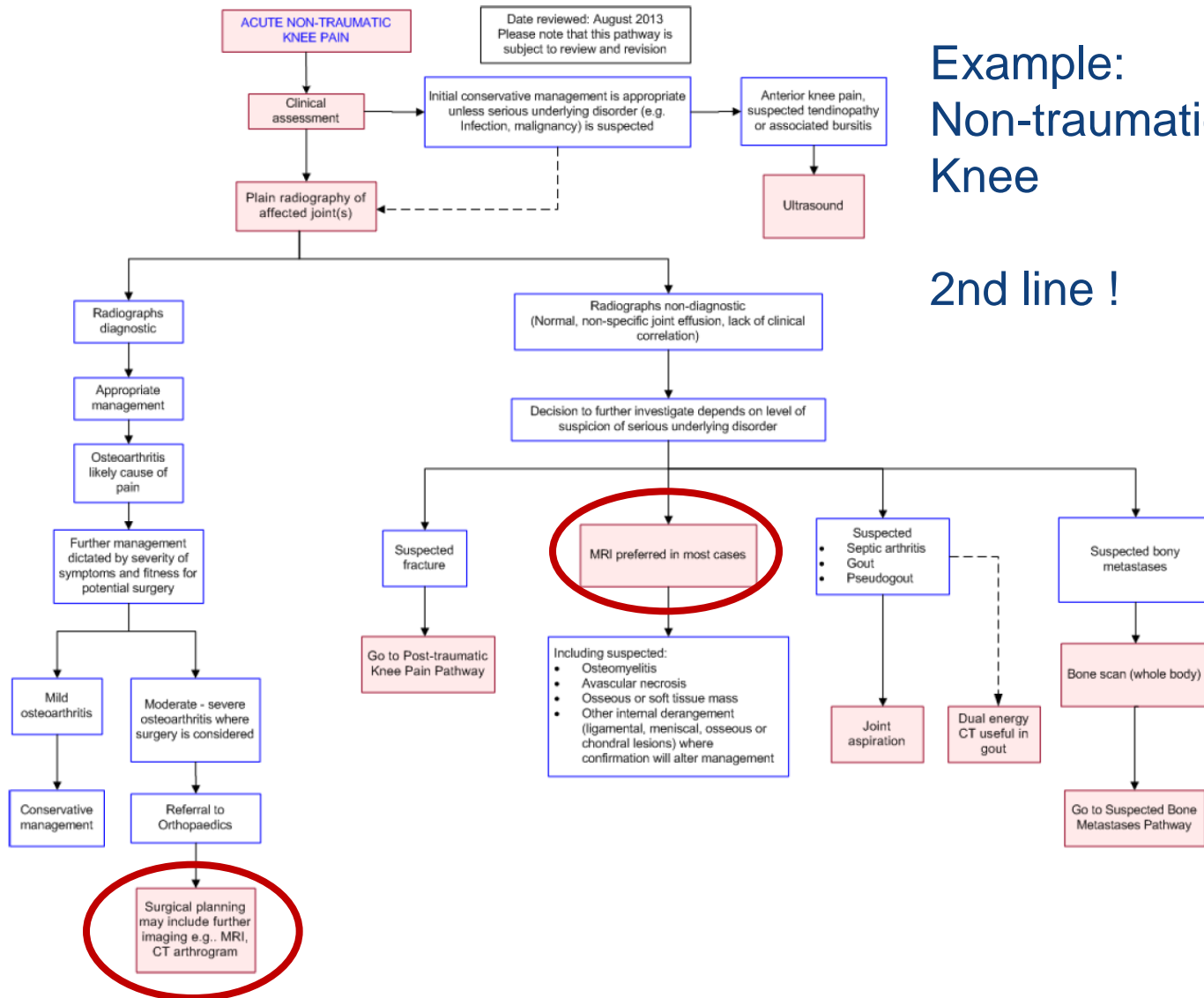


Abbildung 4.1-1: Akuter nicht-traumatischer Knieschmerz Entscheidungspfad



What we find 4/4 2016/ ongoing

Literature Review on methods to identify MRI overuse

- Regional Variances
- Comparison guidelines – actual utilization of MRI
- Patient pathways
- Analysis of predictors (e.g. private insurance)
- Case analyses (surgical outcomes, diagnostic information etc.)

Multiple Regression

- n MRI scans : n elective interventions - hip, knee; OECD-data

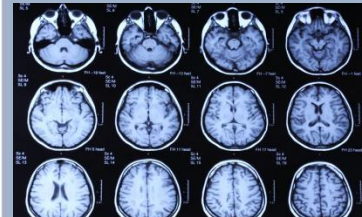




Next steps/ way forward

Data analysis (2016+):

- Practice variation in Austria in regions (MRI, elective interventions, correlation, etc.)
- Patients´ pathways in 1 region (1st line, 2nd line; interventions)
- Publicity – Media, referrers , patients





Questions

- Further ideas ?
- Similar projects in your country?
- Collaboration ??





Thank you!

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Youtube: <https://www.youtube.com/watch?v=WAsQgXoqAX4>



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