

## TREATMENT GUIDELINES FOR OSTEOARTHRITIS

*DO THEY HELP AND CAN THEY  
BE IMPROVED?*



## OARSI AND NICE

*ARE THEY BETTER THAN  
PREVIOUS GUIDELINES?*

George Nuki  
University of Edinburgh

“Clinical guidelines are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances”.

Field and Lohr, 1990  
Institute of Medicine

## OARSI treatment guidelines initiative 2005-2007

### SCOPE AND PURPOSE

To provide concise, patient-focussed, up to date, evidence-based, expert consensus recommendations for the management of hip and knee OA, which are globally relevant.

### TARGET AUDIENCE

- Primary care physicians + allied health professionals
- Secondary (specialist) care physicians + allied health professionals

*Also provide a useful resource for :-*

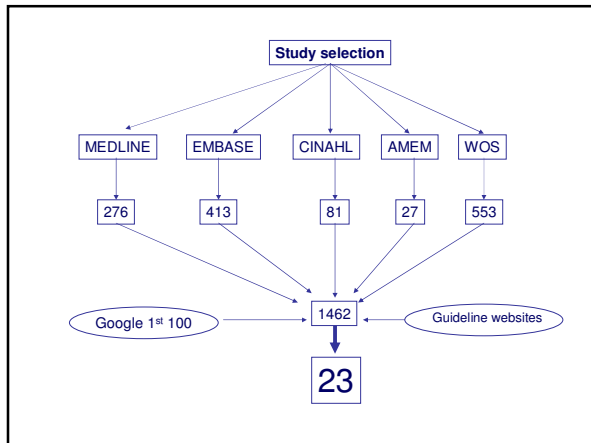
- Patients
- Health service planners and funders

## OARSI Guideline Development

- Critical Appraisal of existing guidelines 1966-2005**
  - AGREE scores
  - Analysis of content
  - Level of evidence
  - Effect size for pain for each modality
- Systematic Review of new published evidence 2002-Jan 2006**
  - Quality scoring
  - Effect size for pain for each modality
  - NNT for relief of symptoms
  - RR/OR for side effects
  - Cost/QALY

## Inclusion/exclusion criteria for guidelines

Inclusion criteria	Exclusion criteria
1. Guidelines using evidence-based and/or consensus approach	1. Guidelines for questions other than the management
2. Guidelines for the management of knee and/or hip OA	2. Guidelines after joint replacement, e.g. guidelines for rehabilitation
3. Latest version	3. Duplicates / previous versions
	4. Reviews/commentary/appraisals/implementation



## Appraisal of Guidelines for Research and Evaluation (AGREE)

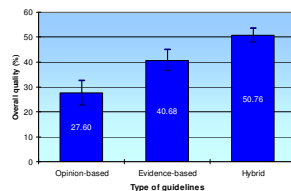
- Scope and purpose
- Stakeholder participation
- Methodological rigour
- Clarity
- Applicability
- Editorial independence
- Overall quality

[www.agreecollaboration.org](http://www.agreecollaboration.org)

## Quality of 23 existing guidelines

Domain	Mean	SEM
Scope	67.01	4.63
Stakeholder	30.06	3.66
Rigour	39.14	5.51
Clarity	58.22	3.91
Applicability	17.94	2.39
Editorial independence	36.05	5.24
Overall	41.46	2.97

– AGREE scores (0-100)



## Recommendation and Level of Evidence

Level of evidence	Frequency recommended in existing guidelines				
	<25%	25% - 50%	50% - 75%	75% - 100%	100%
<b>Ia</b>	Ultrasound (1/5)	Chondroitin sulphate (2/7)	Heat/cice (7/10) Glucosamine sulphate (6/10) NSAID + H2 blockers (5/8)	NSAIDs (15/16) Insule (12/13) Braces (8/9) Topical capsaicin (8/9) IA HA (8/9) IA steroid (11/13) TENS (8/10) Topical NSAIDs (7/9)	Acrobic exercise (21/21) Strengthening exercise (21/21) Acetaminophen (16/16) Education (15/15) COX-2 inhibitors (11/11) Opioid (9/9) Self management (8/8) Water-based exercise (8/8) NSAID + PPI (8/8) NSAID + Misoprostol (8/8) Telephone (2/2)
<b>Ib</b>	Laser (1/6) Electrotherapy /EMG (1/8)	Nutrients (1/3)	Acupuncture (5/8) Massage (1/2) Diacerhein (1/2)	Weight loss (13/14) Patellar tape (12/13) Avocado soybean unsaponifiables (3/4)	Combination therapy (12/12) Joint lavage (3/3) Herbs (2/2)
<b>III</b>					TJR (14/14) Osteotomy (10/10)
<b>IV</b>	Oral steroid (0/2)			Arthroscopic debridement (5/6)	Canes/sticks (11/11) Referral (5/5) Knee fusion (2/2) Knee aspiration (2/2)

## Osteoarthritis and Cartilage

ICRS

International  
 Cartilage  
 Repair  
 Society



### OARS recommendations for the management of hip and knee osteoarthritis, Part I: Critical appraisal of existing treatment guidelines and systematic review of current research evidence

W. Zhang Ph.D., R. W. Moskowitz M.D., G. Nuki M.B., F.R.C.P.\*, S. Abramson M.D., R. D. Altman M.D., N. Arden M.Sc., M.R.C.P., S. Bierma-Zeinstra Ph.D., K. D. Brandt M.D., P. Croft M.D., M. Doherty M.D., F.R.C.P., M. Dougados M.D., M. Hochberg M.D., D. J. Hunter M.B.B.S., Ph.D., K. Kwok M.D., L. S. Lohmander M.D., Ph.D. and P. Tugwell M.D.

## OARS Guideline Development(2)

3. Delphi exercise (4 rounds) to reach initial consensus
4. Feedback from OARS members on draft propositions
5. 2 extra Delphi rounds for consensus on 25 recommendations
6. Votes on strength of recommendations (VAS)

## Research base restricted before 2002

### EULAR

- Clinically driven: evidence supported
- 1. Expert consensus propositions
- 2. Supporting evidence from SR
- 3. SOR
- Limited number of propositions (10)
- Narrower stakeholder representation (Europe)

### OARS

- Evidence driven: clinically supported
- 1. SR of research evidence
- 2. Expert consensus propositions
- 3. SOR
- Unlimited number of propositions (25)
- Wider stakeholder representation(International)

## Osteoarthritis and Cartilage

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### OARS recommendations for the management of hip and knee osteoarthritis, Part II: OARS evidence-based, expert consensus guidelines

W. Zhang Ph.D., R. W. Moskowitz M.D., G. Nuki M.B., F.R.C.P.\*, S. Abramson M.D., R. D. Altman M.D., N. Arden M.D., S. Bierma-Zeinstra M.Sc., Ph.D., K. D. Brandt M.D., P. Croft M.D., M. Doherty M.D., M. Dougados M.D., M. Hochberg M.D., M.P.H., D. J. Hunter M.D., K. Kwok M.D., L. S. Lohmander M.D. and P. Tugwell M.D.  
 University of Edinburgh, Osteoarticular Research Group, The Queen's Medical Research Institute, 47 Little France Crescent, Edinburgh EH16 4TJ, United Kingdom

## THE CONCEPT OF A CORE SET OF RECOMMENDATIONS

### Core set of 20 modalities universally recommended in existing guidelines

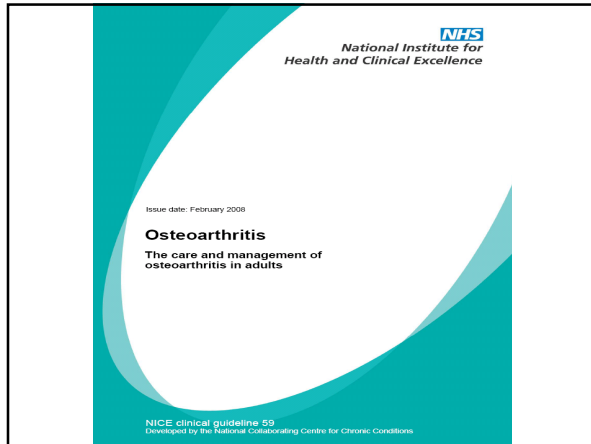
- **8 Non-pharmacological**  
 ( Education, self-management, regular telephone contact, aerobic, muscle strengthening and water based exercises; referral to a physical therapist and use of a cane or stick )
  - **6 Pharmacological**  
 ( Acetoaminophen, NSAIDs (both non-selective with misoprostol/PPI and selective COX-2), opioids and herbal preparations )
  - **5 Surgical**  
 ( Total joint replacements, osteotomy, knee fusion, knee aspiration and lavage )
- + combination of non-pharmacological and pharmacological modalities

All except herbal preparations recommended in OARS propositions

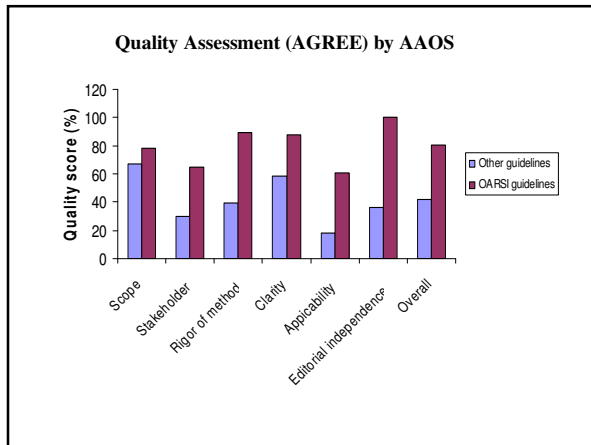
## OARS RECOMMENDATIONS

### Recommendations with caveats for 9 additional modalities approved in 75% of existing guidelines

- **4 Non-pharmacological**  
 ( weight loss, shoe insoles, knee braces and TENS )
- **4 Pharmacological**  
 ( oral and topical NSAIDs, topical capsaicin and IA injections of corticosteroids and hyaluronate )
- **1 Surgical**  
 ( arthroscopic debridement )

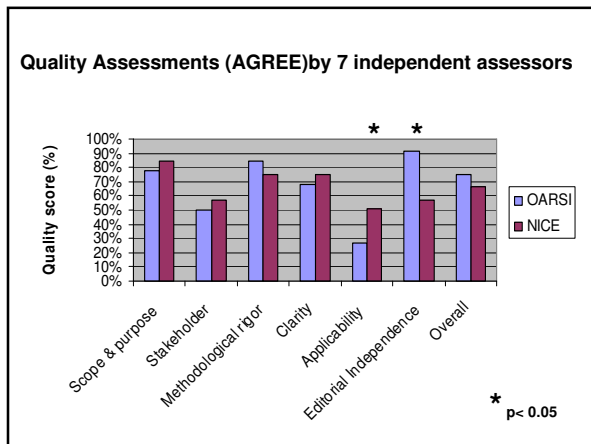


**Are the recent OARSI and NICE guidelines any better than pre-existing guidelines?**



**7 independent assessors**

Christine Beadle	Nurse	UK
Colin Howie	Orthopaedic surgeon	UK
Hiroshi Kawaguchi	Orthopaedic surgeon	Japan
Burkhard Leeb	Rheumatologist	Austria
Tim McAlindon	Rheumatologist	USA
Eispeth Wise	GP	UK
Frank Wolheim	Rheumatologist	Sweden



**Some Caveats**

- Recommendations are for carefully worded propositions including caveats: not for the modality of treatment itself.
- Wording crafted to achieve consensus sometimes lacks clear didactic directive

### **Caveats concerning the use of the evidence hierarchy?**

- Are meta-analyses really always better evidence than good RCTs?
- Which meta-analysis should you choose when there are several?
- Are RCTs always better than observational studies?
- Danger of the efficacy of surgical procedures being downgraded because RCTs are not appropriate.

### **Treatment for individual patient requires consideration of:**

- Co-morbidities and other drugs and interventions
- Patient's as well as physician's perception of balance of potential harms and benefits

### **Some conclusions**

- Appraisals suggest that OARSJ and NICE guidelines are better than previous guidelines in most domains of quality.
- Both illustrate the superiority of guidelines combining research evidence with expert opinion
- Quality could be improved by wider stakeholder involvement and attention to applicability.
- Need for an evidence-based research database to facilitate updating.
- Need to translate and adapt OARSJ guidelines for national and regional use in primary and secondary care settings around the world.

