AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

Development of the Australian Clinical Care Standards for Osteoarthritis of the Knee: Pitfalls and Lessons

Cabrini Institute Education and Research

MONASH University Medicine, Nursing and Health Sciences

Health System Sustainability NHMRC Partnership Centre

WISER HEALTHCARE A RESEARCH COLLABORATION FOR REDUCING OVERDIAGNOSIS AND OVERTREATMENT

No Conflict of Interest to declare

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  - Clinical Advisor, ACSQHC
  - Past President, Australian Orthopaedic Association

Why develop clinical care standards?

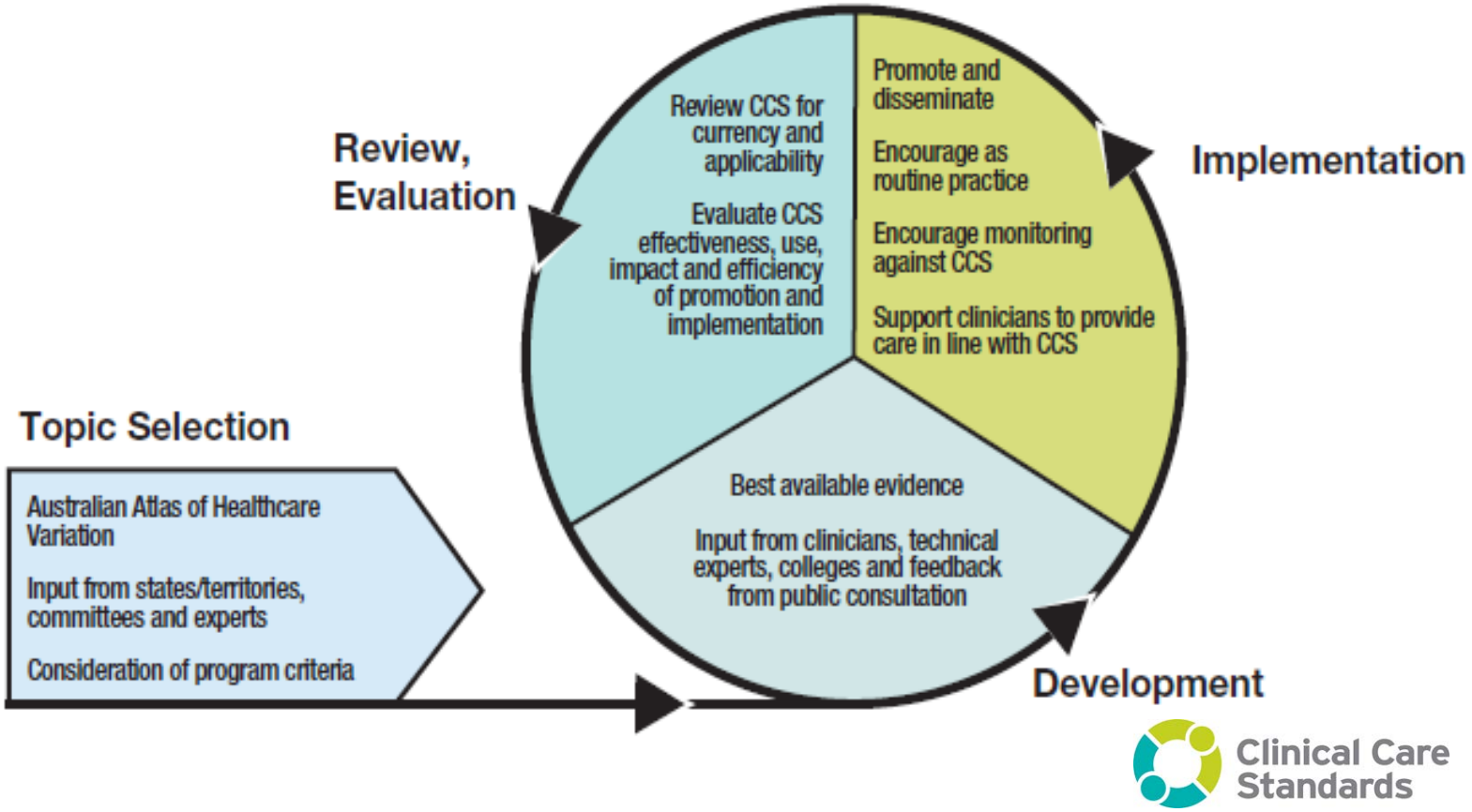
Clinical care standards aim to encourage delivery of best-practice care by:

- Synthesising the best available evidence on therapeutic efficiency
- Reducing unwarranted variation in practice
- Promoting shared decision making
- Providing a set of indicators to support local monitoring.

Each standard includes nationally agreed quality statements in line with current best available evidence

Clinical Care Standards

Method



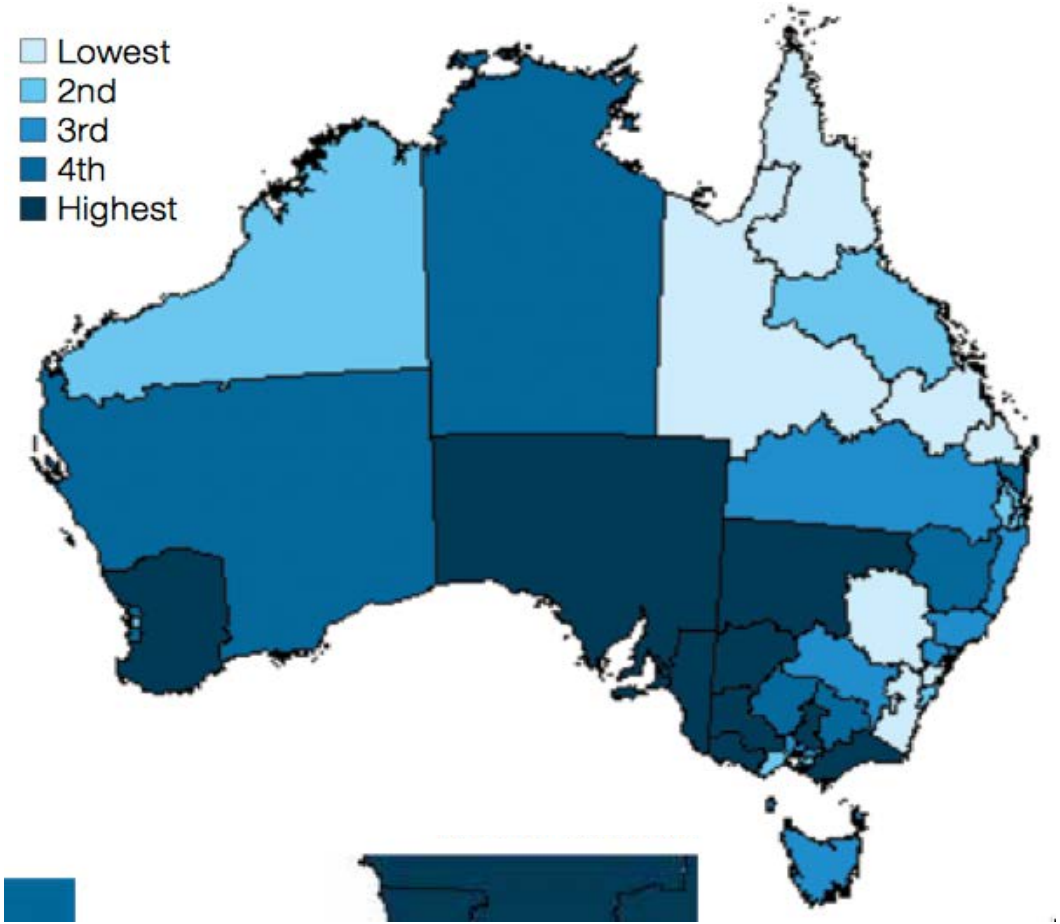
Clinical Care Standards

Rationale

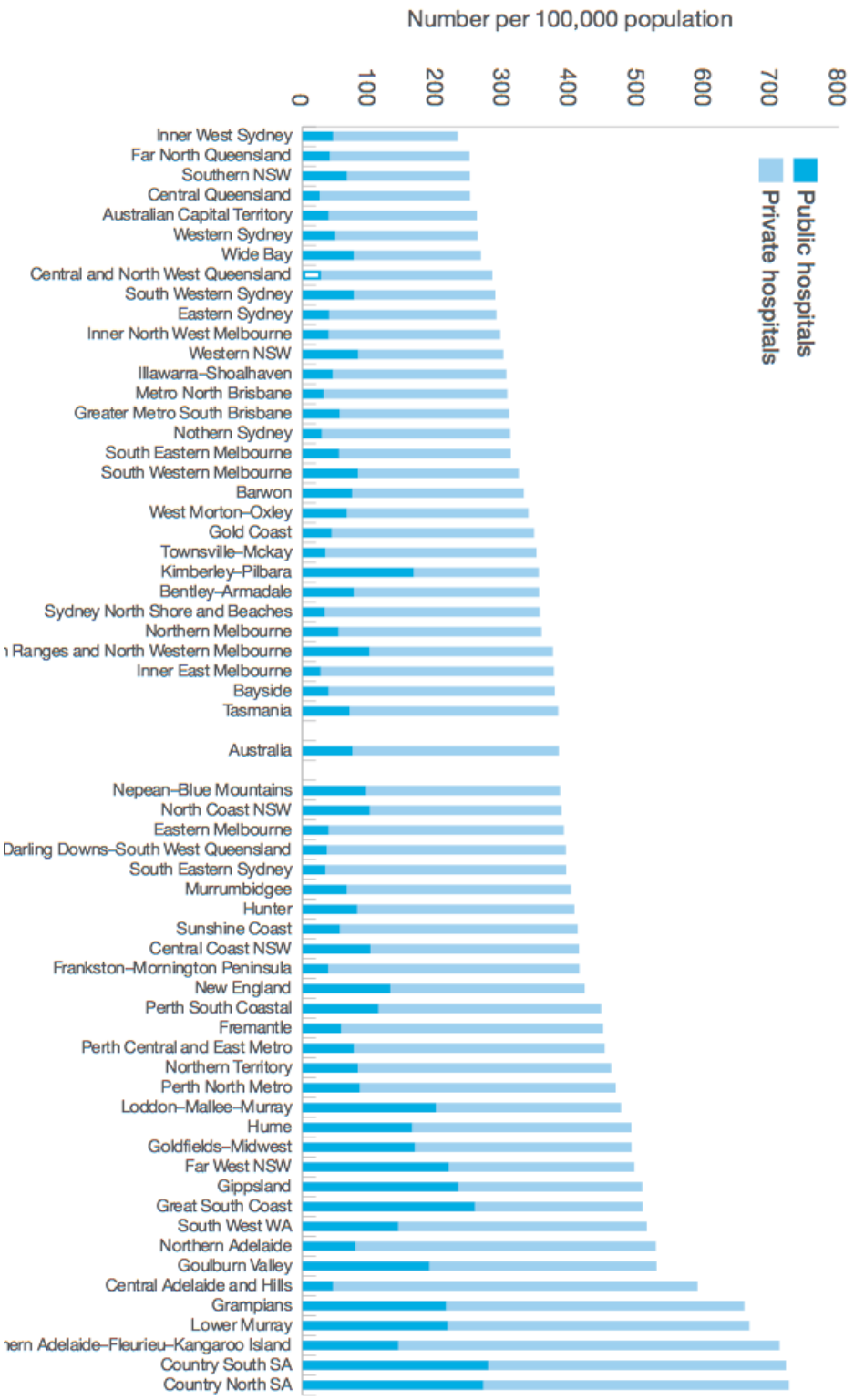
Australia has one of the highest per capita rates of knee arthroscopy out of Organisation of Economic Cooperation and Development (OECD) countries (data from 2011-11)

[Australia Belgium, Canada, Czech Republic, Finland, France, Germany, Israel, Italy, Portugal, Spain, UK (England)]

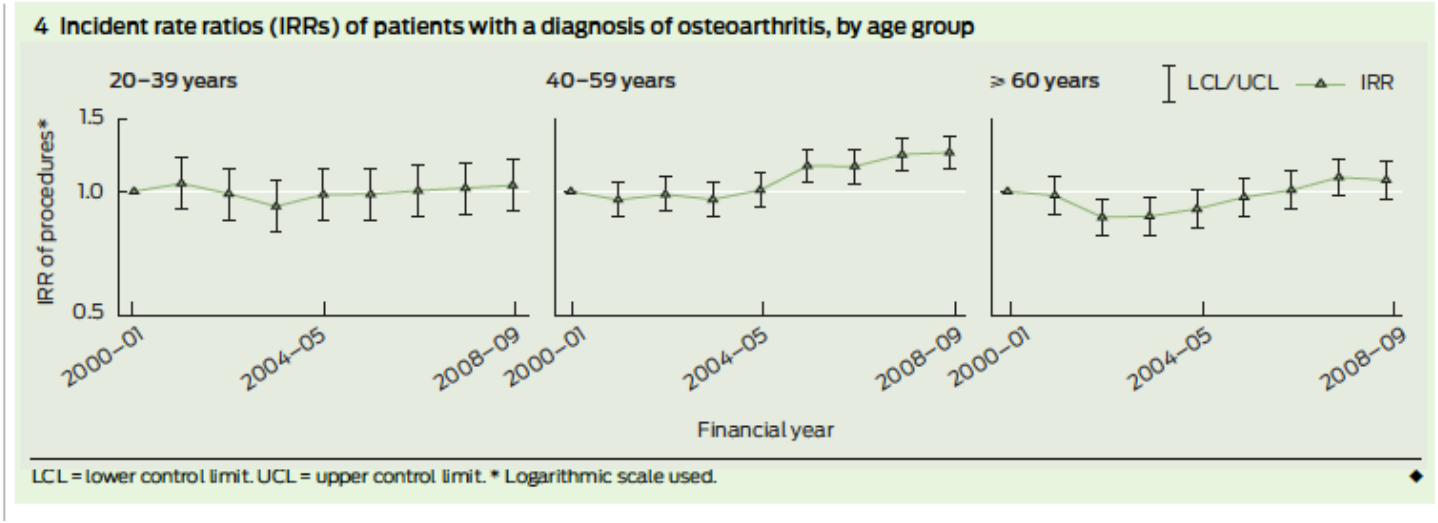
Admissions for knee arthroscopy per 100,000 population by Medicare local 2010-2011



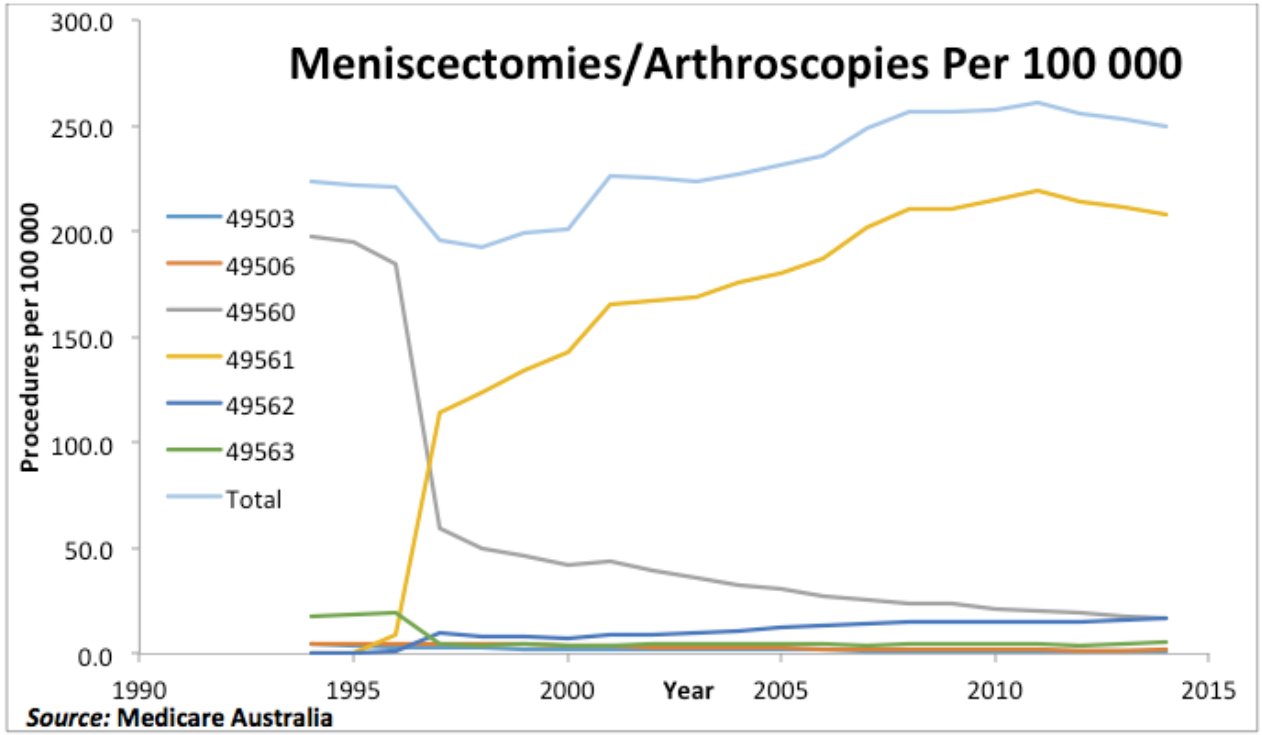
Australian Commission on Safety and Quality in Health Care and Australian Institute of Health and Welfare. Exploring Healthcare Variation in Australia: Analyses Resulting from an OECD Study. Sydney: ACSQHC, 2014.


Number per 100,000 population
0
100
200
300
400
500
600
700
800
Public hospitals
Private hospitals
Inner West Sydney
Far North Queensland
Southern NSW
Central Queensland
Australian Capital Territory
Western Sydney
Wide Bay
Central and North West Queensland
South Western Sydney
Eastern Sydney
Inner North West Melbourne
Western NSW
Illawarra–Shoalhaven
Metro North Brisbane
Greater Metro South Brisbane
Nothern Sydney
South Eastern Melbourne
South Western Melbourne
Barwon
West Morton–Oxley
Gold Coast
Townsville–Mckay
Kimberley–Pilbara
Bentley–Armadale
Sydney North Shore and Beaches
Northern Melbourne
Ranges and North Western Melbourne
Inner East Melbourne
Bayside
Tasmania
Australia
Nepean–Blue Mountains
North Coast NSW
Eastern Melbourne
Darling Downs–South West Queensland
South Eastern Sydney
Murrumbidgee
Hunter
Sunshine Coast
Central Coast NSW
Frankston–Mornington Peninsula
New England
Perth South Coastal
Fremantle
Perth Central and East Metro
Northern Territory
Perth North Metro
Loddon–Mallee–Murray
Hume
Goldfields–Midwest
Far West NSW
Gippsland
Great South Coast
South West WA
Northern Adelaide
Goulburn Valley
Central Adelaide and Hills
Grampians
Lower Murray
ern Adelaide–Fleurieu–Kangaroo Island
Country South SA
Country North SA

No reduction in knee arthroscopy for over a decade



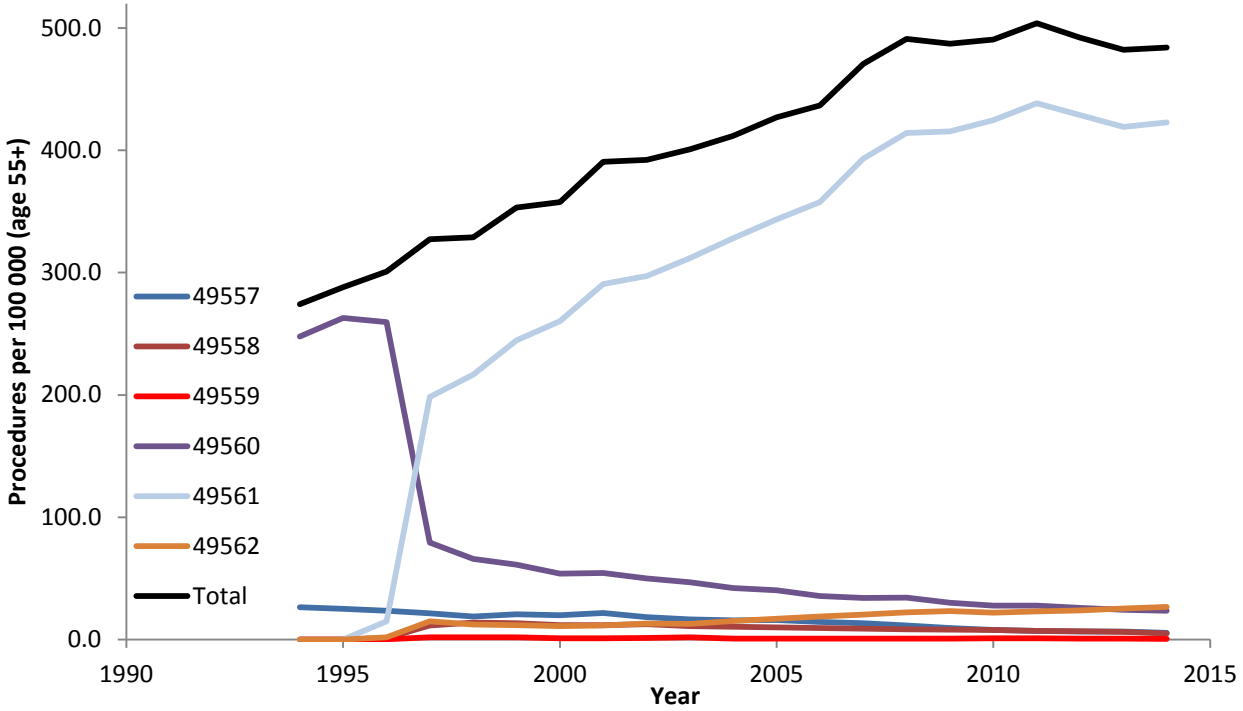
Bohensky MA, et al. Trends in elective knee arthroscopies in a population-based cohort, 2000–2009. MJA 2012;197:399–403.



49560: KNEE, arthroscopic surgery of, involving 1 or more of: partial or total meniscectomy, removal of loose body or lateral release - not being a service associated with any other arthroscopic procedure of the knee region

49561: same but includes associated debridement, osteoplasty or chondroplasty

Arthroscopies in those aged ≥55 years



Australian Commission on Safety and Quality in Health Care and National Health Performance Authority. *Australian Atlas of Healthcare Variation.* Sydney: ACSQHC, 2015. access at www.safetyandquality.gov.au/atlas/

Recommendations

Knee arthroscopy hospital admissions 55 years and over

3a. The Commission recommends to the MBS Review Taskforce that, given the lack of clinical evidence for the efficacy of knee arthroscopy for people with degenerative changes in the knee that the relevant MBS item(s) be amended to remove knee arthroscopy for this group.

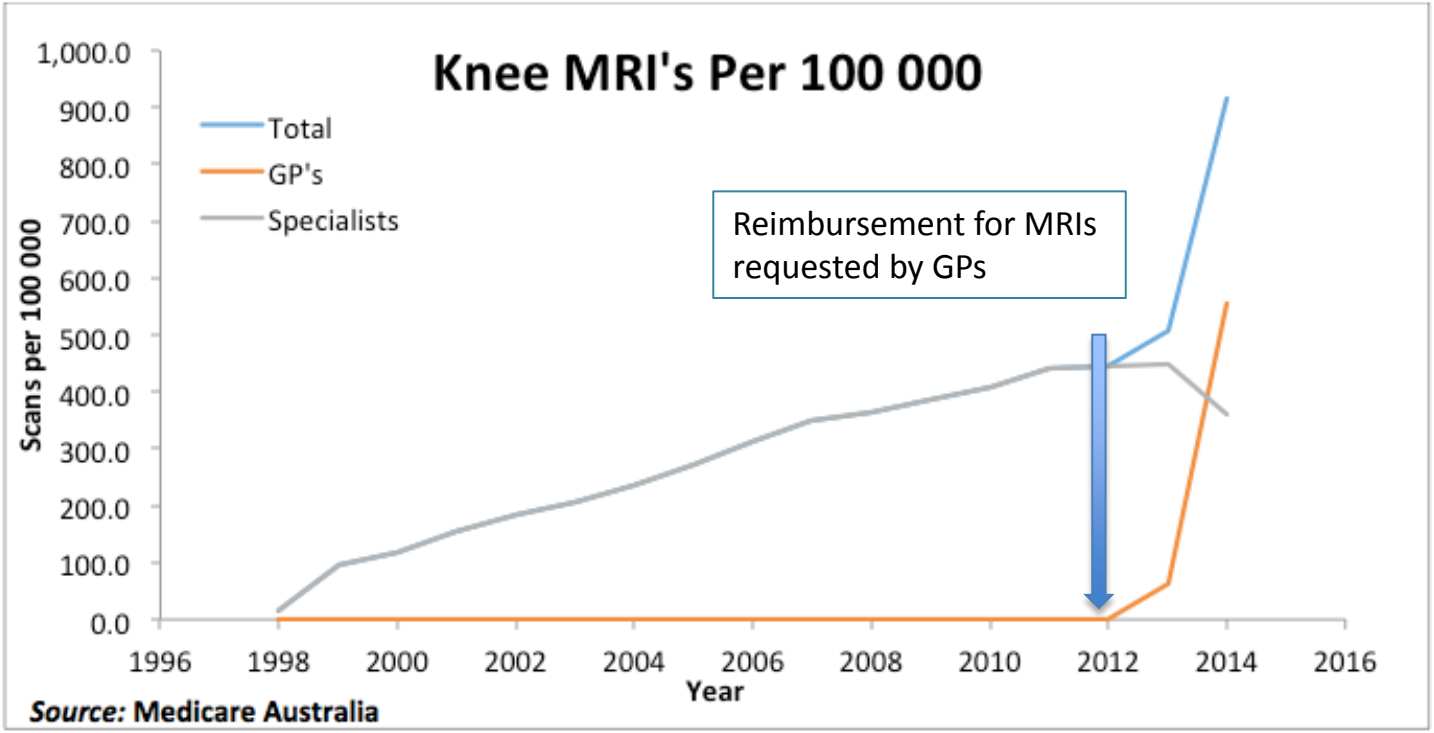
3b. The Commission develops a Clinical Care Standard for investigating and managing osteoarthritic knee pain based on recommendations from the Commission's Knee Pain Expert Working Group.

3c. State and territory health departments consider mechanisms to improve coding, analytics and collection of outcome data for knee arthroscopy.

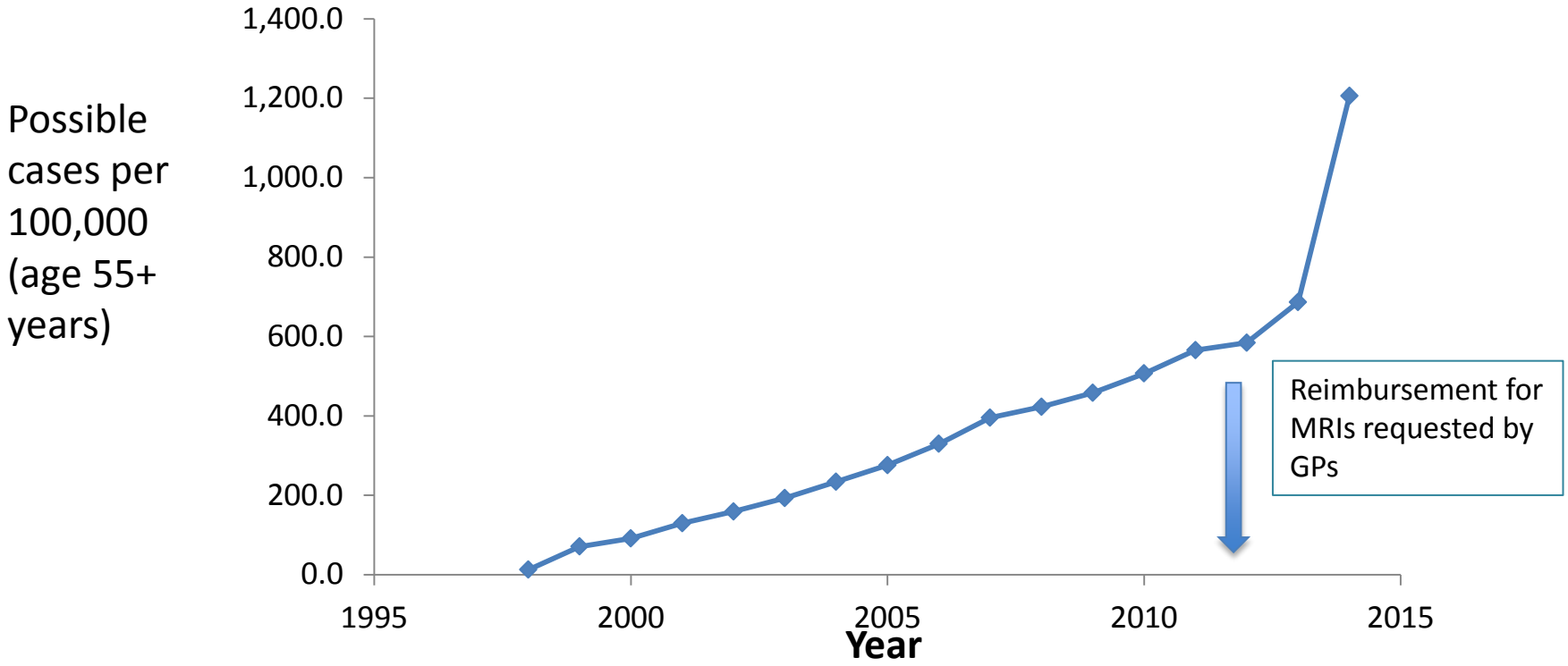
3d. Relevant clinical colleges ensure education and training material, as well as continuing professional development requirements, are in keeping with the applicable Clinical Care Standard for management of osteoarthritic knee pain.

3e. The Commission promotes the collection of patient-reported outcome measures for surgical interventions for knee pain.

Increasing use of knee MRI



Use of knee MRI in those aged ≥55 years



Who has knee osteoarthritis?

- **Most** people aged 50 years and over (~90%) will have some osteoarthritis in their knees
- ~ 25% some wear and tear in menisci as part of condition, increases with age
- Common in people both **with** and **without** pain
- Majority have stable radiological findings over 10 + years regardless of clinical progression

What do the guidelines say?

- Consistently say: **Do not do arthroscopic lavage and/or debridement for osteoarthritis**
  - Australian Knee Society
  - American Academy of Orthopaedic Surgeons
  - International Osteoarthritis Research Society
  - UK NICE guidance
- Currently: No specific advice for meniscal tears associated with osteoarthritis

What are the possible benefits/harms?

- Potential benefits
  - Relieve pain
  - Stop occasional locking, catching
  - Improve function
- Potential harms
  - General anaesthetic
  - Wound infection
  - Infection in knee
  - Clots in legs, lungs
  - Might make it worse
  - Rarely death

- … and it might hasten joint replacement and it won't stop the underlying process

What does the evidence say?

What does the evidence say?

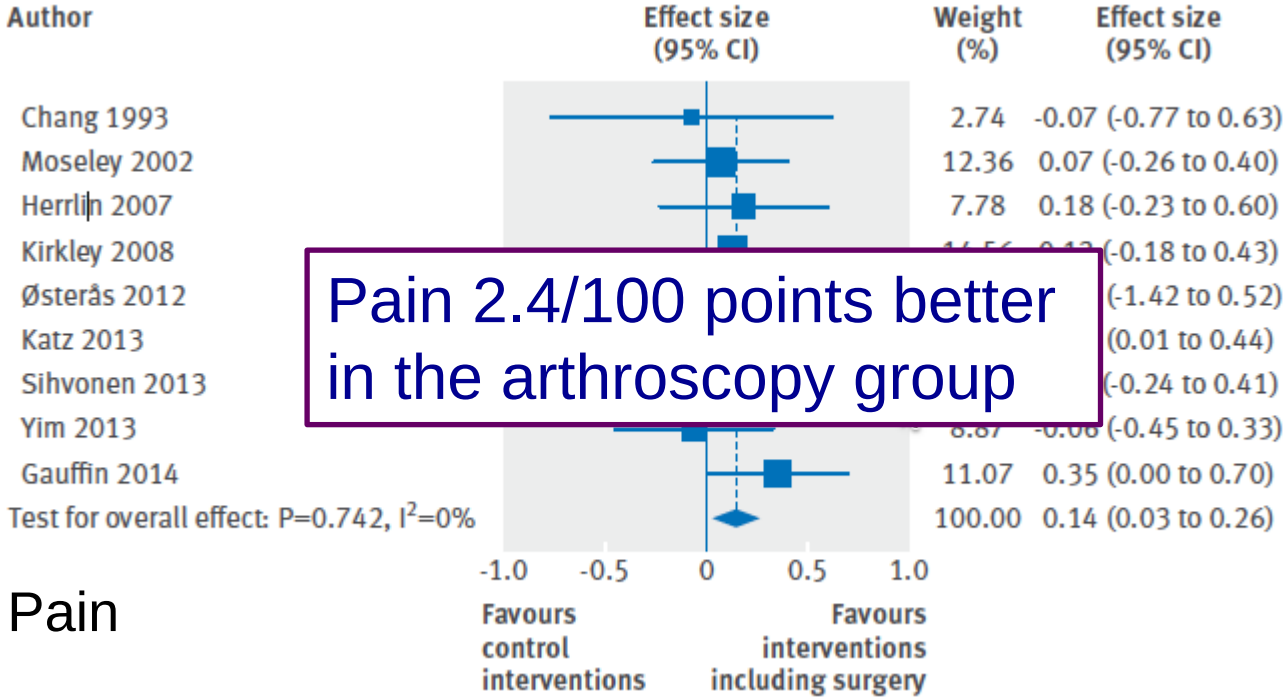
- Randomised trials have consistently shown **no benefit** over control treatment
- Inconsequential small benefit, short duration
- Smaller benefit than exercise treatment
- Potential for harm

- Evidence does not support arthroscopic treatment for middle aged or older people with persistent knee pain (+/- osteoarthritis)

Arthroscopic surgery for degenerative knee: systematic review and meta-analysis of benefits and harms

BMJ 2015;350:h2747

J B Thorlund,[1] C B Juhl,[1,2] E M Roos,[1] L S Lohmander[1,3,4]



Pain 2.4/100 points better in the arthroscopy group

Pain

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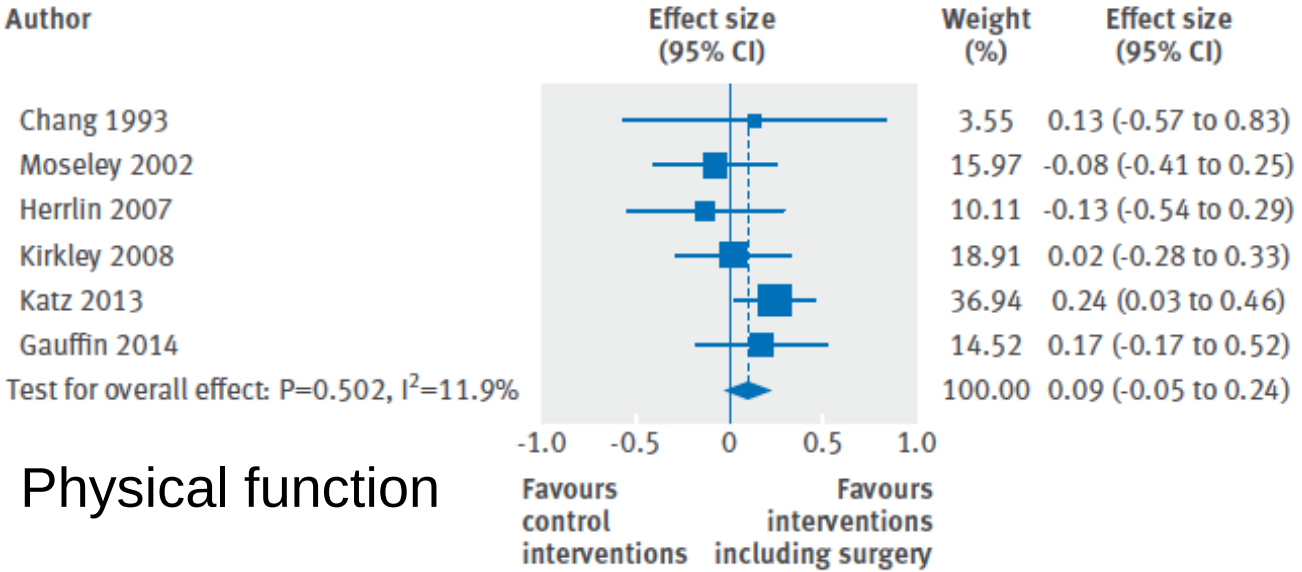
J B Thorlund,[1] C B Juhl,[1,2] E M Roos,[1] L S Lohmander[1,3,4]



Physical function

Arthroscopic surgery for degenerative knee: systematic review and meta-analysis of benefits and harms

BMJ 2015;350:h2747

J B Thorlund,[1] C B Juhl,[1,2] E M Roos,[1] L S Lohmander[1,3,4]

Summary of meta-analysis on harms of arthroscopic meniscectomy

Adverse event	No of studies (No of patients/procedures)	No of adverse events per 1000* (95% CI)	I^2 (%)
Deep venous thrombosis	5 (432 663)	4.13 (1.78 to 9.60)	98.3
Pulmonary embolism	6 (736 823)	1.45 (0.59 to 3.54)	98.6
Venous thromboembolism	6 (571 793)	5.68 (2.96 to 10.9)	99.3
Infection	4 (946 230)	2.11 (0.80 to 5.56)	99.6
Death	2 (106 967)	0.96 (0.04 to 23.9)	90.3

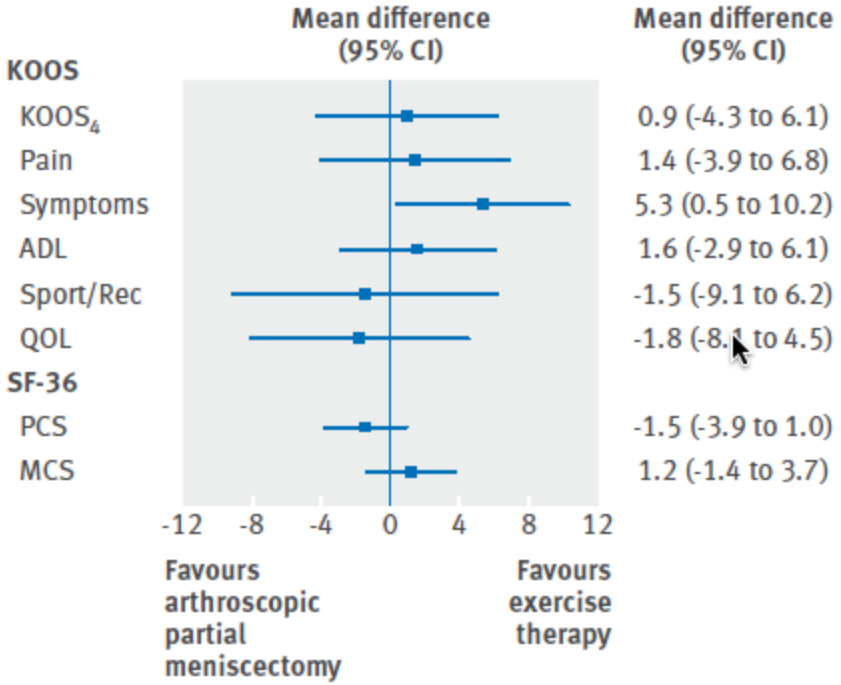
*Mix of studies reporting per patient and per procedure.

OPEN ACCESS

Exercise therapy versus arthroscopic partial meniscectomy for degenerative meniscal tear in middle aged patients: randomised controlled trial with two year follow-up

BMJ 2016;354:i3740

Nina Jullum Kise,[1] May Arna Risberg,[2,3,4] Silje Stensrud,[2] Jonas Ranstam,[5] Lars Engebretsen,[3,6,7] Ewa M Roos[8]



Australian Commission on Safety and Quality in Health Care
Clinical care standard for osteoarthritis of the knee

AIM

To address unwarranted variation in the management of knee osteoarthritis, as highlighted in the 2015 Australian Atlas of Healthcare Variation

Clinical care standard for knee osteoarthritis

- Working group of expert clinicians
- General practice, rheumatology, orthopaedics, nursing, pain medicine, pharmacy, physiotherapy, sport and exercise, radiology
- Consumers with experience of osteoarthritis

Underpinned by an evidence review

- Guidelines: UK NICE, Therapeutic Guidelines: Rheumatology, American Academy of Orthopaedic Surgeons, Royal Australian College General Practice, Australian Knee Society
- Systematic reviews: imaging, non-surgical treatment, arthroscopy
- Robust discussion at face to face meetings
- Draft document underwent public consultation
- Australian Health Ministers Advisory Council approved revised standard for publication

1 Comprehensive assessment
A patient with knee pain and other symptoms suggestive of osteoarthritis receives a comprehensive assessment that includes a detailed history of the presenting symptoms and other health conditions, a physical examination, and a psychosocial evaluation that identifies factors that may affect their quality of life and participation in their usual activities.

2 Diagnosis
A patient with knee pain and other symptoms suggestive of osteoarthritis is diagnosed as having knee osteoarthritis based on clinical assessment alone. X-rays are considered only if an alternative diagnosis is suspected (for example, insufficiency fracture, malignancy). Magnetic resonance imaging (MRI) is considered only if there is suspicion of serious pathology not detected by X-ray.

3 Education and self-management
A patient with knee osteoarthritis receives education about their condition and treatments for it, and participates in the development of an individualised self-management plan that addresses both their physical and psychosocial health needs.

4 Weight loss and exercise
A patient with knee osteoarthritis is offered support to lose weight, if they are overweight or obese, and advice on exercise, tailored to their needs and preferences. The patient is encouraged to set weight and exercise goals, and is referred to services to help them achieve these, as required.

5 Medicines used to manage symptoms
A patient with knee osteoarthritis is offered medicines to manage their symptoms according to the current version of *Therapeutic Guidelines: Rheumatology* (or concordant local guidelines). This includes consideration of the patient's clinical condition and their preferences.

6 Patient review
A patient with knee osteoarthritis receives planned clinical reviews at agreed intervals, and management of the condition is adjusted for any changing needs. If the patient has worsening symptoms with severe functional impairment that persists despite the best conservative management, they are referred for specialist assessment.

7 Surgery
A patient with knee osteoarthritis who is not responding to conservative management is offered timely joint-conserving* or joint replacement surgery, depending on their fitness for surgery and preferences. The patient receives information about the procedure to inform their treatment decision. Arthroscopic procedures are not effective treatments for knee osteoarthritis, and therefore should only be offered if the patient has true mechanical locking or another appropriate indication for these procedures.†

https://www.safetyandquality.gov.au/our-work/clinical-care-standards/osteoarthritis-clinical-care-standard/

Quality Statement 1 – Comprehensive Clinical Assessment

A patient with knee pain and other symptoms suggestive of osteoarthritis receives a comprehensive assessment that includes:

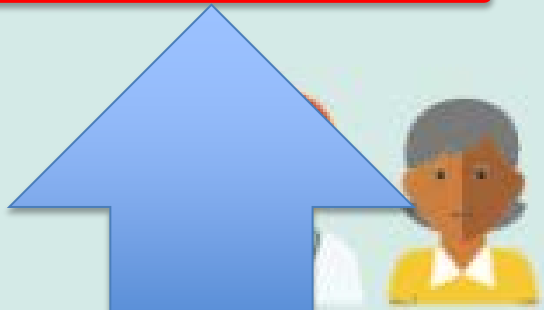
- **Detailed history**
  - presenting symptoms and
  - other health conditions
- **Physical examination**
- **Psychosocial evaluation**
  - identify factors affecting quality of life and
  - participation in usual activities

Effective management in primary care can reduce the burden of knee osteoarthritis on patients and the healthcare system

Provide a comprehensive clinical assessment

Educate the patient and develop a self-management plan

Include non-surgical treatments: weight loss, exercise, pain management



the patient through
d clinical reviews

Refer the patient to a surgeon or rheumatologist if conservative management no longer works

For more information on the *Osteoarthritis of the Knee*

Quality Statement 2 – Diagnosis

A patient with knee pain and other symptoms suggestive of osteoarthritis is diagnosed as having knee osteoarthritis based on

clinical assessment alone

X-rays are considered only if an alternative diagnosis is suspected (e.g. insufficiency fracture, malignancy). MRI is considered only if there is suspicion of serious pathology not detected by X-ray.

Today’s lesson is brought to you by…..

T

So…….

- T
- T
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So…….

- TALK……
- T
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So…….

- TALK……and LISTEN to the patient
- T
- T

So…….

- TALK……and LISTEN to the patient
- T
- T

So…….

- TALK……and LISTEN to the patient
- TOUCH
- T

So…….

- TALK……and LISTEN to the patient
- TOUCH and Examine the patient
- T

Diagnosis …….

- TALK LISTEN to the patient
- TOUCH EXAMINE the patient
- THINK about the patient

ACR Clinical Classification Criteria for knee osteoarthritis

Pain in the knee *and* 3 of the following:

- ❑ Over 50 years of age
- ❑ Less than 30 minutes of morning stiffness
- ❑ Crepitus on active motion
- ❑ Bony tenderness
- ❑ Bony enlargement
- ❑ No palpable warmth of synovium

Altman E, et al. The American College of Rheumatology criteria for the classification and reporting of osteoarthritis of the knee. Arthritis Rheum 1986;29:1039-49.

EULAR evidence-based recommendations for diagnosis of knee osteoarthritis

- In adults aged >40 years with usage-related knee pain, only short-lived morning stiffness, functional limitation and one or more typical examination findings (crepitus, restricted movement, bony enlargement),
  a confident diagnosis of knee OA can be made
  without a radiographic examination
- This applies even if radiographs appear normal

Zhang W, et al. EULAR evidence-based recommendations for the diagnosis of knee osteoarthritis. Ann Rheum Dis 2010;69:483–9.

EULAR recommendations for use of imaging in clinical management of peripheral joint osteoarthritis

Imaging not required to make the diagnosis in patients with typical presentation of OA

Level of evidence: III–IV

Perceived level of agreement (95% CI) 8.7 (7.9 to 9.4) (0=fully disagree; 10=fully agree)

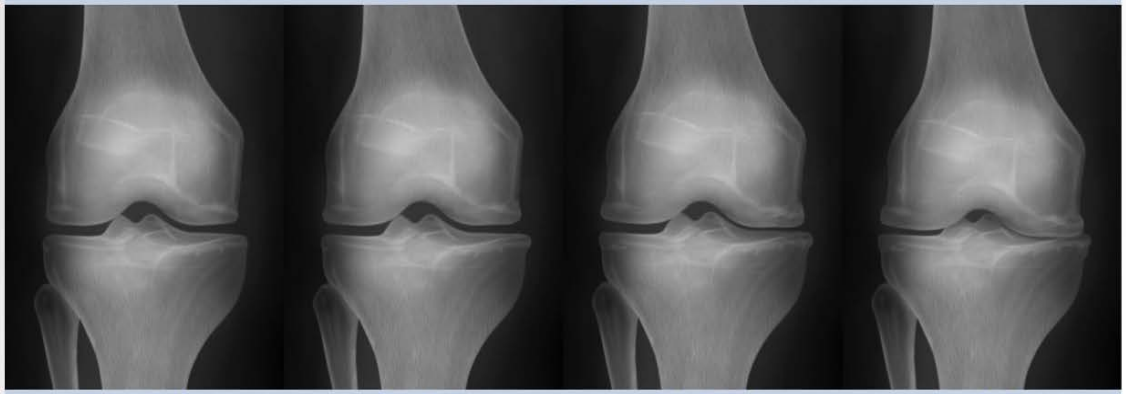
Many studies applied imaging for diagnostic purposes, but lack of studies of imaging applied in addition to clinical findings to evaluate additional impact on certainty of diagnosis

Sakellariou G, et al. EULAR recommendations for the use of imaging in the clinical management of peripheral joint osteoarthritis. Ann Rheum Dis 2017;76: 1484-94.

Changes that might be seen in osteoarthritic knees on X-ray

Imaging – Radiography (X-ray)

Kellgren-Lawrence (KL) grading scale



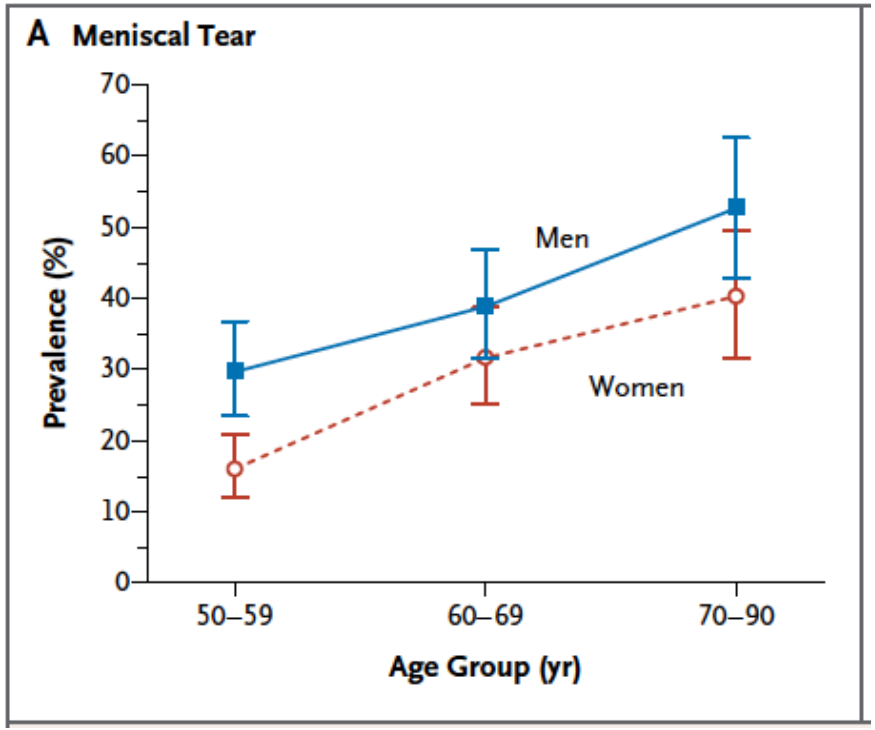
Grade 1 | Grade 2 | Grade 3 | Grade 4

CLASSIFICATION	Normal	Doubtful	Mild	Moderate	Severe
DESCRIPTION	No features of OA	Minute osteophyte: doubtful significance	Definite osteophyte: normal joint space	Moderate joint space reduction	Joint space greatly reduced: subchondral sclerosis

The grading system focuses on osteophyte formation, joint-space narrowing, and bone sclerosis.

Kellgren-Lawrence Grading System

Prevalence of meniscal tear by age and sex



Meniscal tears >50 years are common in people with and without knee pain:

No radiographic OA

Knee pain 32%

No knee pain 23%

Radiographic OA

Knee pain 63%

No knee pain 60%

Englund M, et al. Incidental meniscal findings on knee MRI in middle-aged and elderly persons. N Engl J Med 2008;359:1108-15.

Indicators for Quality Statement 2 – Diagnosis

Indicators for local monitoring

Indicator 2a: Local arrangements for clinically based diagnosis of knee osteoarthritis without the use of imaging for people with knee pain and other symptoms suggestive of osteoarthritis.
METeOR link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644277

Indicator 2b: Proportion of patients clinically diagnosed with knee osteoarthritis, without imaging.
METeOR link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644279

More information about these indicators and the definitions needed to collect and calculate them can be found online in the above METeOR links.

Effective management in primary care can reduce the burden of knee osteoarthritis on patients and the healthcare system

Provide a comprehensive clinical assessment

Educate the patient and develop a self-management plan

Include non-surgical treatments: weight loss, exercise, pain management

the patient through
d clinical reviews

Refer the patient to a surgeon or rheumatologist if conservative management no longer works

For more information on the *Osteoarthritis of the Knee*

Quality Statement 3 – Education and self-management

A patient with knee osteoarthritis receives

- **Education** about the condition and treatments for it

- **Participates** in the development of an individualised **self-management plan** that addresses both their **physical and psychosocial** health needs

Effective management in primary care can reduce the burden of knee osteoarthritis on patients and the healthcare system

Provide a comprehensive clinical assessment

Educate the patient and develop a self-management plan

Include non-surgical treatments: weight loss, exercise, pain management

Monitor the patient through planned clinical reviews

the patient to a surgeon or rheumatologist if nservative management no longer works

For more information on the *Osteoarthritis of the Knee*

Communication with patient about knee osteoarthritis

- ❑ Most knee pain in those 40+ is osteoarthritis
- ❑ Some people might never have symptoms
- ❑ Some people have pain, stiffness +/- swelling
- ❑ In many people with symptoms, these will vary in severity over time (e.g. flare ups)
- ❑ In some people with symptoms, these may get worse over time

Quality statement 4 – Weight loss and exercise

A patient with knee osteoarthritis is offered

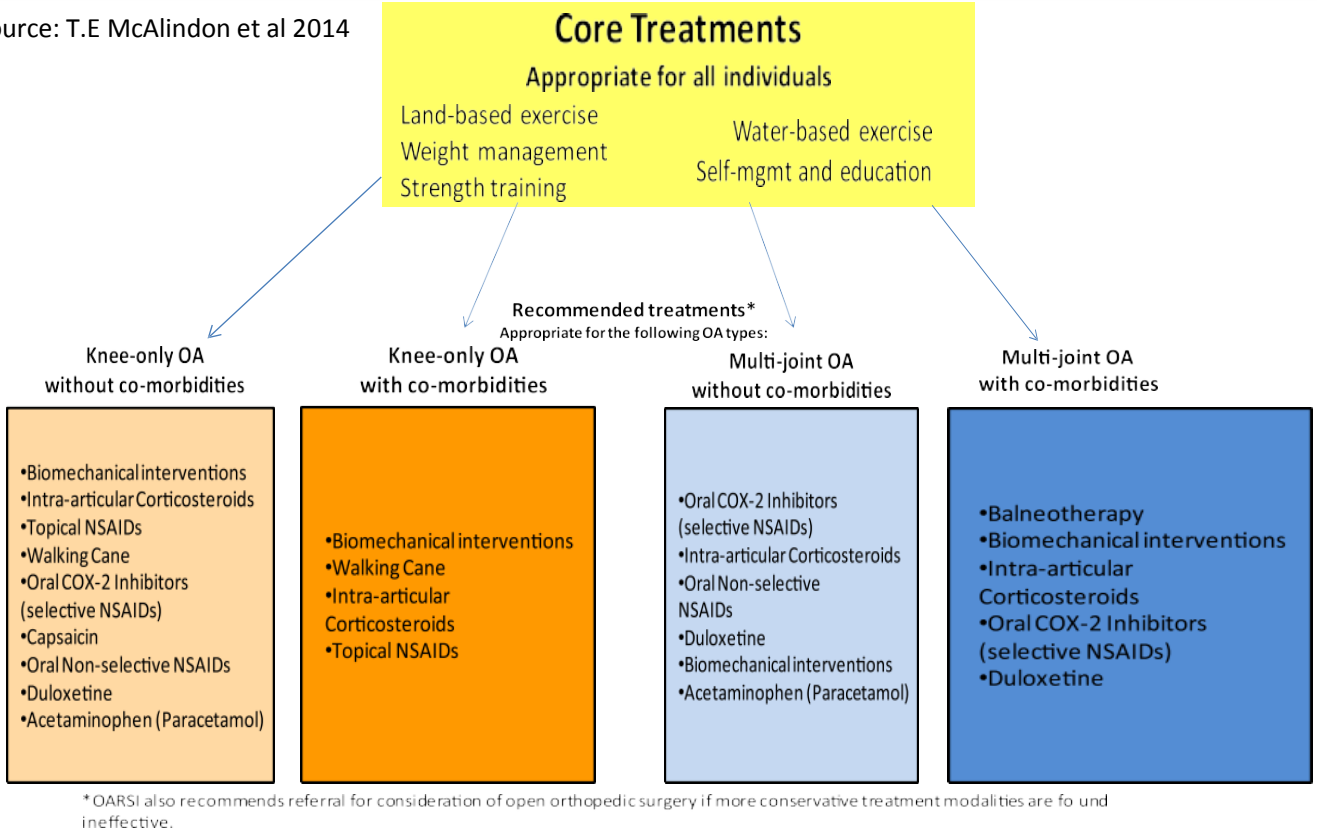
- **support to lose weight**, if they are overweight or obese
- **advice on exercise**, tailored to their needs and preferences

The patient is

- encouraged to **set weight and exercise goals**
- **referred to services** to help them achieve these, as required

OARSI guidelines for non-surgical management of knee osteoarthritis

Source: T.E McAlindon et al 2014



*OARSI also recommends referral for consideration of open orthopedic surgery if more conservative treatment modalities are fo und ineffective.

Weight loss

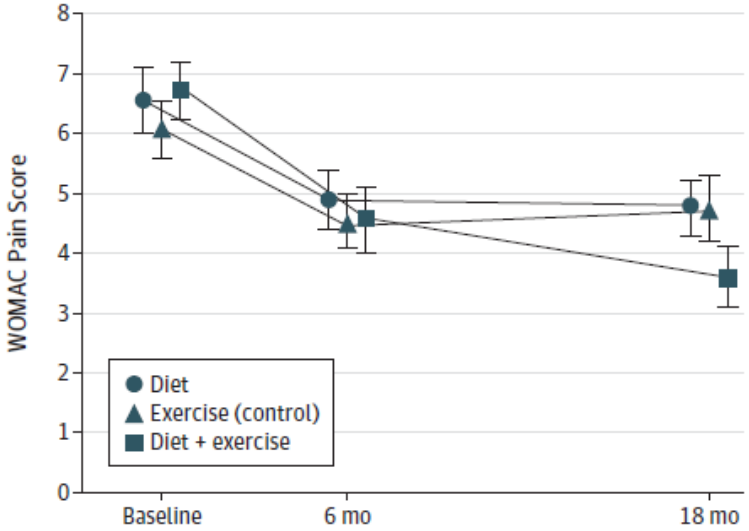
- Overweight/obesity is a risk factor for both development and progression of knee osteoarthritis
- Strong evidence weight loss is beneficial
- Benefits proportional to percent of weight loss
- Reasonable target: >5% weight reduction

Therapeutic Guidelines: Rheumatology v.3, published March 2017

Effects of Intensive Diet and Exercise on Knee Joint Loads, Inflammation, and Clinical Outcomes Among Overweight and Obese Adults With Knee Osteoarthritis

Messier et al, JAMA 2013;310:1263-73.

Figure 2. Mean WOMAC Pain Scores Across the 18-Month Intervention Period



No. of patients			
Diet	152	115	124
Exercise	149	119	127
Diet + exercise	152	130	120

Screening and brief (30-second) intervention for obesity in primary care: advice or support

	Advice (n = 942)	Support (n=940)
Lost at least 5% bodyweight		
Number of patients (%)	131 (14%)	238 (25%)
Adjusted odds ratio (95 CI)*	-	2.11 (1.67 – 2.68)
Lost at least 10% of bodyweight		
Number of patients (%)	53 (6%)	117 (12%)
Adjusted odds ratio (95 CI)*	-	2.41 (1.72 – 3.38)
* Logistic mixed-effects model: fixed effect for randomised group, random effects for physicians		

Support = offer referral for weight loss, book appointment for weight loss and follow up at 4 weeks

Aveyard et al, Lancet 2016; 388:2492-500.

Exercise

HANDI Making non-drug interventions easier to find and use

Exercise: knee osteoarthritis

Intervention

Exercise is recommended as a core treatment for osteoarthritis in all clinical guidelines regardless of patient age, pain levels or disease severity.

Regular land-or water-based therapeutic exercise for adults with knee osteoarthritis (OA).

http://www.racgp.org.au/your-practice/guidelines/handi/interventions/musculoskeletal/exercise-for-knee-osteoarthritis

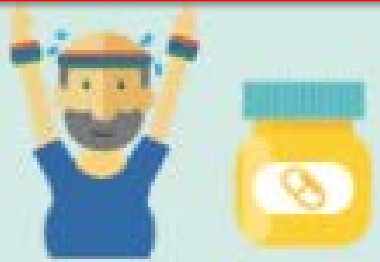
General tips for the types and dosage of exercises

	Strength	Flexibility	Aerobic
Tips – all where appropriate	Include quadriceps, hip abductor, hamstring and calf muscle strengthening exercises. Perform exercises in functional way: chair raises, step-ups, step-downs, squats, heel raises, bridging.	Prescribe exercises to target increased range of movement in the knee and hip, and flexibility of the associated muscles.	Perform regular bouts of aerobic physical activity (e.g. walking, cycling or water exercise), aiming for decreased sedentary time and increased active time.
How often?	At least 3 times per week, and maintained in order to gain longer-term benefits.	At least 3 times per week, and maintained in order to gain longer-term benefits.	At least 30 minutes of moderate intensity aerobic exercise most days. Can be done in bouts of at least 10 minutes.
Exercise intensity	8–12 repetitions in 1 set. Repeat 2–3 times with 1–2 minutes rest between sets. To get stronger safely, the exercise should feel like it was 'hard' or 'very hard', not 'easy' or 'extremely hard'.	Each stretch should be held 15–30 seconds and repeated 2– 4 times. Source: www.racgp.org.au/your-practice/guidelines/handi/interventions/musculoskeletal/exercise-for-knee-osteoarthritis/	Moderate intensity means working 'somewhat hard' (i.e. puffing but still able to talk).

Effective management in primary care can reduce the burden of knee osteoarthritis on patients and the healthcare system

Provide a comprehensive clinical assessment

Educate the patient and develop a self-management plan



Include non-surgical treatments: weight loss, exercise, pain management

Monitor the patient through planned clinical reviews

Refer the patient to a surgeon or r ogist if conservative management no l rks

For more information on the *Osteoarthritis of the Knee*

Quality statement 5 – Medicines used to manage symptoms

A patient with knee osteoarthritis is offered **medicines** to manage their symptoms according to the current version of ***Therapeutic Guidelines: Rheumatology*** (or concordant local guidelines).

This includes consideration of the **patient's clinical condition** and their preferences.

Recommendations in Therapeutic Guidelines: Rheumatology

General principles: Use a trial-based approach to analgesic medicines and regular patient assessment

- ❑ Anti-inflammatories (topical or oral)
- ❑ Paracetamol (not as effective as NSAIDs)
- ❑ Opioids – very limited role, modest **if any** benefit and significant risk of harms
- ❑ Intra-articular injections

Therapeutic Guidelines: Rheumatology v.3, published March 2017

Recommendations in Therapeutic Guidelines: Rheumatology

- Intra-articular corticosteroid
  - Symptom relief lasts from 4 to 12 weeks
  - Rapid onset of action
  - ***Easily*** performed with landmark guidance
  - Image guidance: ***no*** increased effectiveness but increases cost

Therapeutic Guidelines: Rheumatology v.3, published March 2017

Recommendations in Therapeutic Guidelines: Rheumatology

Intra-articular hyaluronan

- ❑ No clinically significant benefit
- ❑ May temporarily worsen symptoms
- ❑ High cost
- ❑ Pain relief may last slightly longer in patients who respond vs steroid injection

Intra-articular platelet-rich plasma (PRP)

- ❑ 'Favourable' reviews but high risk of bias trials

Adipocyte cell suspensions, mesenchymal stem cells

- ❑ Weak evidence

Consider these injections only within context of high-quality randomised controlled trials

Therapeutic Guidelines: Rheumatology v.3, published March 2017

Quality statement 6 – Patient review

A patient with knee osteoarthritis receives

- ❑ **Planned clinical reviews** at
- ❑ **Agreed** intervals
- ❑ **Management is adjusted** for any changing needs
- ❑ **If patient has worsening symptoms/severe functional impairment** that persists (despite the best conservative management)
- ❑ **Refer for specialist assessment**

If imaging is required for referral to a specialist

- Plain X-rays
  - Weight-bearing
  - Lateral
  - Antero-posterior (AP)
  - Rosenberg
  - Skyline
  - Notch
- **MRI is NOT APPROPRIATE**

Quality statement 7 - Surgery

A patient with knee osteoarthritis who is **not responding** to conservative management is considered for :

- ❑ **Joint-conserving** or **joint replacement surgery**
- ❑ Depends on **fitness for surgery** and **co-morbidities**
- ❑ Patient receives **clear information** to inform treatment decision

Arthroscopic procedures are not effective treatments for knee osteoarthritis.

- ❑ True mechanical locking/obstruction
- ❑ Septic arthritis

Indicators for Quality Statement 7 – Surgery

Indicators for local monitoring

Indicator 7a: Number of patients undergoing arthroscopic procedures for knee osteoarthritis.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644337

Indicator 7b: Proportion of patients with knee osteoarthritis referred for consideration of surgery who were supported with non-surgical core treatments for at least three months.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644349

More information about these indicators and the definitions needed to collect and calculate them can be found online in the above METeOR links.

What does the evidence say?

Implementing the clinical care standards

- Set of indicators developed to support health care providers and local health services to monitor how well they implement the care described in the standard

Implementing the clinical care standards

- Scoping review of implementation research in osteoarthritis of the knee
- Partnering with the Australian Commission on Quality and Safety in Health Care to implement the standards (part of grant application for ANZMUSC Clinical Trial Network Centre for Research Excellence)

Conclusion

- **The Commission's approach encourages action to reduce unwarranted variation in the management of knee osteoarthritis through evidence-based clinician and consumer education**

- **Improved implementation of recommended care should benefit patients and reduce unnecessary costs to the health system**

What do I say to my patients?

- M
- M
- M
- M
- M

What do I say to my patients?

- **MODIFY lifestyle**
- **M**
- **M**
- **M**
- **M**

What do I say to my patients?

- MODIFY
- **MINIMIZE LOADS**
- **M**
- **M**
- **M**

What do I say to my patients?

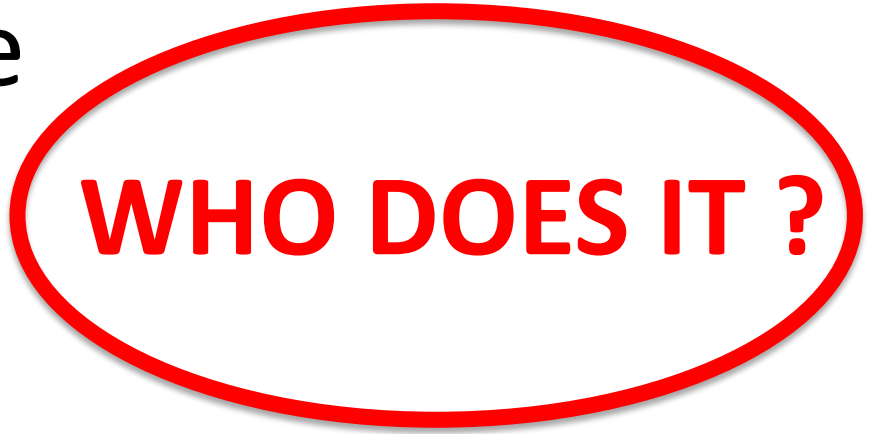
- MODIFY
- MINIMISE LOADS
- **MAXIMISE MUSCLE**
- **M**
- **M**

What do I say to my patients?

- MODIFY
- MINIMISE LOADS
- MAXIMIZE MUSCLE
- **MEDICATE with …**
- **M**

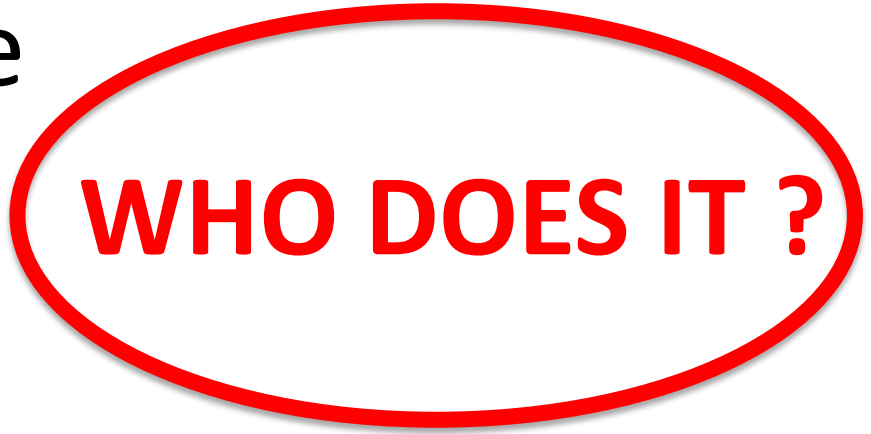
What do I say to my patients?

- Modify
- Minimise loads
- Maximise muscle
- Medicate
- **M**



What do I say to my patients?

- Modify
- Minimise loads
- Maximise muscle
- Medicate
- **ME** **(says the patient)**



https://www.safetyandquality.gov.au/our-work/clinical-care-standards/osteoarthritis-clinical-care-standard/

Implementation Resources

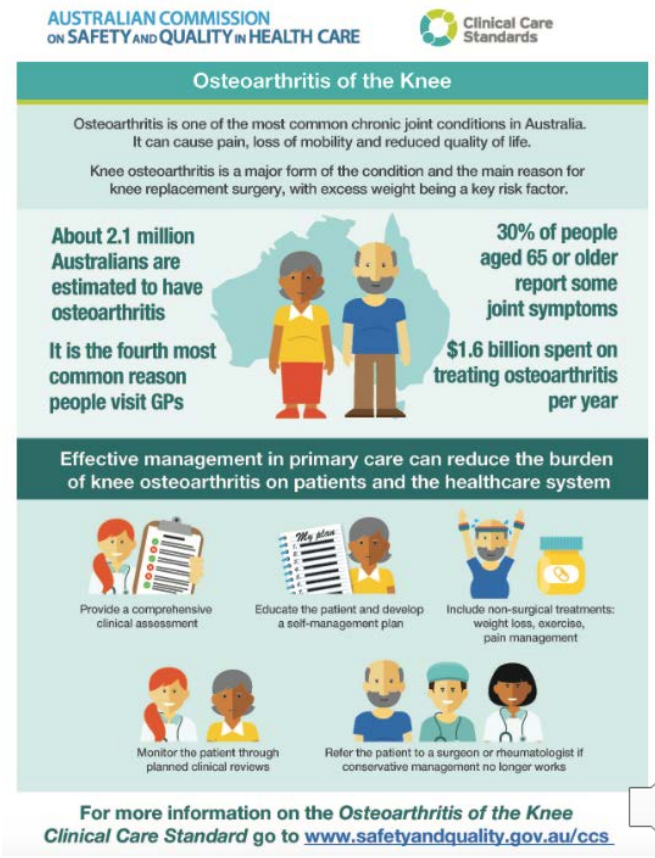
Clinician fact sheet

Consumer fact sheet

Evidence sources document

Infographic

Infographic with quality statements



THANK YOU

AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE

Clinical Care
Standards