

Supplementary Table 4. Quality indicators per category and theme

| Theme | Quality indicator | Author | OA in the knee, hip, or not related to specific sites | Healthcare setting |
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| Structure | | | | |
| Musculoskeletal appointments | Percentage of musculoskeletal appointments completed as scheduled | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Healthcare providers involved | Percentage of specialist providers participating in centralized intake. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Estimation of clinic capacity | Ratio of patient flow to estimated clinic capacity of OA teams participating in centralized intake. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Process: history taking and examination | | | | |
| Regular assessment of functional status | The percentage of patients treated for symptomatic osteoarthritis, whose notes contain a record that they have been assessed for functional status in the last year. | Broadbent et al. (2008) | OA not related to specific sites | Primary care in the UK general practice |
| Regular assessment of pain | The percentage of patients treated for symptomatic osteoarthritis, whose notes contain a record that they have been assessed for degree of pain in the last year. | Broadbent et al. (2008) | OA not related to specific sites | Primary care in the UK general practice |
| Regular assessment of pain | IF a VE has symptomatic OA of the knee or hip, THEN pain should be assessed when new to a primary care or musculoskeletal disease practice and annually. | MacLean et al. (2007) | Hip/knee OA | US healthcare system |
| Regular assessment of pain | If you have joint pain, has it been assessed by a health professional? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Regular assessment of pain and functional status | IF a vulnerable elder is diagnosed with symptomatic osteoarthritis, THEN his or her functional status and the degree of pain should be assessed annually BECAUSE this information is necessary to direct therapeutic decisions. | MacLean et al. (2001) | OA not related to specific sites | US healthcare system |

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| Regular assessment of pain and functional status | IF a patient is diagnosed with symptomatic osteoarthritis of the knee or hip, THEN his or her pain should be assessed annually and when new to a practice. | MacLean et al. (2004) | Hip/knee OA | US healthcare system |
| Regular assessment of pain and functional status | IF a homebound patient is diagnosed with symptomatic osteoarthritis, THEN his or her functional status and the degree of pain should be assessed at each visit. | Smith et al. (2007) | OA not related to specific sites | Home-based primary care setting in the US |
| Regular assessment of pain and functional status | IF a person aged 65 or older is treated for symptomatic osteoarthritis, THEN functional status and degree of pain should be assessed at least annually. | Steel et al. (2004) | OA not related to specific sites | Primary and secondary care setting in the UK |
| Regular assessment of pain and functional status | IF a NH resident has a new joint pain that is reported to the primary care provider THEN the joint and periarticular structures should be examined within 1 month or there should be documentation that the problem has resolved. | Saliba et al. (2004) | OA not related to specific sites | Nursing homes in the US |
| Assessment for aid | If you have problems with walking, has your need for a walking aid been assessed? (e.g. stick, crutch or walker) | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Assessment for appliances and aids | If you have problems related to other daily activities, has your need for appliances and aids been assessed? (e.g. splints, assistive technology for cooking or personal hygiene, a special chair) | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Assessment for assistive devices | IF a VE has symptomatic OA of the hip or knee and has difficulty walking that makes activities of daily living (ADLs) difficult for longer than 3 months, THEN the need for ambulatory assistive devices should be assessed, BECAUSE these devices will improve walking and help maintain function and independence. | MacLean et al. (2007) | Knee OA | US healthcare system |
| Assessment for assistive devices | IF a VE has symptomatic OA and has difficulty with nonambulatory ADLs, THEN the need for ADL assistive devices should be assessed, BECAUSE such devices will help to maintain function and independence. | MacLean et al. (2007) | Knee OA | US healthcare system |
| Assessment for assistive devices | IF a patient has had symptomatic osteoarthritis of the hip or knee and reports difficulty walking to accomplish activities of daily living for 3 months, THEN the patient's walking | MacLean et al. (2004) | Knee/hip OA | US healthcare system |

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| | ability should be assessed for need of ambulatory assistive devices. | | | |
| Assessment for assistive devices | IF a patient has a diagnosis of osteoarthritis and reports difficulties with nonambulatory activities of daily living, THEN the patient's functional ability with problem tasks should be assessed for need of nonambulatory assistive devices to aid with problem tasks. | MacLean et al. (2004) | OA not related to specific sites | US healthcare system |
| Radiographs | Patients with incident symptoms of hip OA should be offered an anteroposterior film of the affected hip. | Moore et al. (2000) | OA not related to specific sites | US healthcare system |
| Radiographs | IF a patient has hip or knee osteoarthritis AND has worsening complaints accompanied by a progressive decrease in activities AND no previous radiograph during the preceding 3 months, THEN a knee or hip radiograph should be performed within 3 months. | MacLean et al. (2004) | Hip/knee OA | US healthcare system |
| Radiograph | If a patient is clinically diagnosed with knee OA and suffering from pain resistant to conservative treatment with acetaminophen and/or NSAID, then a radiography (weight-bearing, semiflexed PA, plus lateral and skyline view) of the symptomatic knee should be taken for the morphological assessment and grading of knee OA (especially to detect unicompartamental OA, for which treatment modalities may differ). CT and MRI scan should not be used. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Diagnostic aspiration | IF a vulnerable elder has monoarticular joint pain associated with redness, warmth, or swelling AND the patient also has an oral temperature greater than 38.0 °C and does not have a previously established diagnosis of pseudogout or gout, THEN a diagnostic aspiration of the painfully swollen red joint should be performed that day BECAUSE this sign-symptom complex is common with joint infection, and it requires treatment that is different than that for osteoarthritis. | MacLean et al. (2001) | OA not related to specific sites | US healthcare system |

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| Diagnostic aspiration | IF a NH resident has monoarticular joint pain associated with redness, warmth, and/or swelling and the patient also has an oral temperature >38.0°C, and does not have a previously established diagnosis of pseudogout or gout THEN a diagnostic aspiration of the painfully swollen red joint should be performed that day. | Saliba et al. (2004) | OA not related to specific sites | Nursing homes in the US |
| Diagnostic aspiration | IF a homebound patient has monoarticular joint pain associated with redness, warmth, or swelling AND the patient also has an oral temperature greater than 38.0 °C and does not have a previously established diagnosis of pseudogout or gout, THEN diagnostic aspiration of the painfully swollen, red joint should be performed that day. | Smith et al. (2007) | OA not related to specific sites | Home-based primary care setting in the US |
| Diagnostic aspiration | If a patient with knee OA has a recurrent clinically evident effusion, then he/she should be further assessed (with aspiration and analysis of synovial fluid) in order to differentiate from inflammation caused by other arthritis. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Inventory of health-related problems | Inventory of health-related problems according to the International Classification of Functioning, Disability and Health (ICF) | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Inventory of health-related problems | Assessing the presence of personal and environmental problems in so far as these relate to the limitations in activities and restrictions in participation | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Inventory of health-related problems | If you have problems with daily activities, have these problems been assessed by a health professional? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Inventory of health-related problems | Assessing the presence of hip and knee OA-specific 'red flags' | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Examination of joint before drug treatment | IF a non-OTC drug is newly prescribed to treat new joint pain THEN evidence that the affected joint was examined should be documented within 4 weeks | Saliba et al. (2004) | OA not related to specific sites | Nursing homes in the US |
| Examination of joint before drug treatment | IF a patient is begun on a drug treatment for joint pain, arthritis, or arthralgia, THEN evidence that the affected joint was examined should be documented. | MacLean et al. (2004) | OA not related to specific sites | US healthcare system |

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| Evaluating treatment | Evaluating treatment with the recommended measurement instruments | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Evaluating treatment | Evaluating treatment with the combination of a questionnaire and a performance test | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Evaluating treatment | Evaluating treatment with a patient-specific complaint list | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Evaluating treatment | Evaluating treatment with the Timed Up and Go test (TUG) | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Process: education and information | | | | |
| Information and advice | Information and advice (benchmark >90%) | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands. |
| Information concerning knowledge and understanding of OA | Providing information concerning knowledge and understanding of OA of the hip and/or knee | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands. |
| Information concerning development of disease | Have you been given information about osteoarthritis from a health professional? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Information concerning consequences for on functional performance | Providing information concerning the consequences for the patient's functional performance in terms of movements, activities and participation | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands. |
| Information concerning relationship between burden and tolerance level | Providing information concerning the relationship between burden and tolerance level | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands. |
| Information concerning coping style with health problems | Providing information concerning the way a patient copes with health problems | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands. |

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| Information concerning active and healthy lifestyle | Providing information concerning what constitutes an active and healthy lifestyle (in terms of exercise and nutrition/overweight) | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands. |
| Information concerning behavioural change | Providing information concerning behavioural change (regarding physical activity) | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands. |
| Information concerning joint protection and the use of aids | Providing information concerning joint protection and the use of aids | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands. |
| Advice about using medications to relieve joint pain | You have been offered advice about medications (to relieve joint pain) | Blackburn et al. (2016) | OA not related to specific sites | Primary care setting in the UK |
| Information concerning treatment, and self-management | If a patient has knee OA, he/she should be given information access and education about the objectives of treatment and the importance of changes in lifestyle, exercise, pacing of activities, weight reduction, and other measures to unload the damaged joints. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Information about self-management for OA | You have received advice and support on how you might help yourself to manage or deal with your joint problem | Blackburn et al. (2016) | OA not related to specific sites | Primary care setting in the UK |
| Information concerning pathology of OA, treatment, and self-management | The percentage of patients with symptomatic osteoarthritis, whose notes contain a record that they have been offered education regarding the natural history, treatment, and self-management of the disease at least once. | Broadbent et al. (2008) | OA not related to specific sites | Primary care in the UK general practice |
| Information pathology of OA, treatment, and self-management | IF an ambulatory person aged ≥ 50 years has a diagnosis of symptomatic osteoarthritis, THEN education regarding the natural history, treatment and self-management of the disease should be offered at least once. | Hardcastle et al. (2015) | OA not related to specific sites | UK healthcare system |
| Information concerning pathology of OA, | IF an ambulatory vulnerable elder is diagnosed with symptomatic osteoarthritis THEN education regarding the natural history, treatment, and self-management of the disease should be offered at least once within 6 months of | MacLean et al. (2001) | OA not related to specific sites | US healthcare system |

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| treatment, and self-management | diagnosis BECAUSE such education produces improvements in physical functioning and pain. | | | |
| Information concerning pathology of OA, treatment, and self-management | IF a patient COX has had a diagnosis of symptomatic osteoarthritis for 12 months or longer THEN there should be evidence that the patient was offered education regarding the natural history, treatment, and selfmanagement of the disease at least once since the time of diagnosis BECAUSE such education produces improvements in physical functioning and pain. | MacLean et al. (2001) | OA not related to specific sites | US healthcare system |
| Information concerning pathology of OA, treatment, and self-management | IF a patient has had a diagnosis of symptomatic osteoarthritis of the knee or hip for >3 months, THEN education about the natural history, treatment, and self-management of osteoarthritis should have been given or recommended at least once. | MacLean et al. (2004) | knee/hip OA | US healthcare system |
| Information concerning pathology of OA, treatment, and self-management | IF an ambulatory person aged 65 or older has a diagnosis of symptomatic osteoarthritis, THEN education regarding the natural history, treatment and selfmanagement of the disease should be offered at least once. | Steel et al. (2004) | OA not related to specific sites | Primary and secondary care setting in the UK |
| Information concerning treatment options | Have you been given information about different treatment alternatives? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Information concerning how to live with the disease | Have you been given information about how you can self-manage the disease? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Information concerning importance of physical activity and exercise | Have you been given information about the importance of physical activity and exercise? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Information regarding resources and tools available | Percentage of patients who receive information regarding resources and tools available for management while waiting for first musculoskeletal specialty contact. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |

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| for management while waiting | | | | |
| Process: exercise therapy | | | | |
| Exercise therapy for activities | Exercise therapy for activities (benchmark >90%) | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Exercise therapy for body functions | Exercise therapy for body functions (benchmark >90%) | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Walking exercises | Treating patients with walking exercises | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Strengthening exercises | Treating patients with strengthening of muscles. | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Strengthening or aerobic exercises | IF an ambulatory person aged ≥ 50 years has had a diagnosis of symptomatic osteoarthritis of the knee for longer than 3 months and has no contraindications to exercise and is physically and mentally able to exercise, THEN a directed or supervised strengthening or aerobic exercise programme should have been prescribed at least once. | Hardcastle et al. (2015) | OA not related to specific sites | UK healthcare system |
| Strengthening or aerobic exercises | IF an ambulatory vulnerable elder is newly diagnosed with osteoarthritis of the knee, has no contraindication to exercise, and is physically and mentally able to exercise, THEN a directed or supervised strengthening or aerobic exercise program should be prescribed within 3 months of diagnosis BECAUSE such programs improve functional status and reduce pain. | MacLean et al. (2001) | Knee OA | US healthcare system |
| Strengthening or aerobic exercises | IF an ambulatory vulnerable elder has had a diagnosis of symptomatic osteoarthritis of the knee for longer than 12 months, has no contraindication to exercise, and is physically and mentally able to exercise, THEN there should be evidence that a directed or supervised strengthening or aerobic exercise program was prescribed at least once since the time of diagnosis BECAUSE such programs improve functional status and reduce pain. | MacLean et al. (2001) | Knee OA | US healthcare system |
| Strengthening or aerobic exercises | IF an ambulatory VE has symptomatic OA of the knee or hip for longer than 3 months and is able to exercise, THEN a | MacLean et al. (2007) | Knee and hip OA | US healthcare system |

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| | directed or supervised muscle strengthening or aerobic exercise program should be recommended and activity reviewed annually, BECAUSE directed or supervised exercise programs improve functional status and reduce pain. | | | |
| Strengthening or aerobic exercises | IF an ambulatory patient has had a diagnosis of symptomatic osteoarthritis of the knee or hip for >3 months AND has no contraindication to exercise and is physically and mentally able to exercise, THEN a directed or supervised muscle strengthening or aerobic exercise program should have been prescribed at least once and reviewed at least once per year. | MacLean et al. (2004) | Knee/hip OA | US healthcare system |
| Strengthening or aerobic exercises | IF an ambulatory NH resident is newly diagnosed with symptomatic osteoarthritis of the knee and has no contraindication to exercise and is physically and mentally able to exercise THEN a directed or supervised strengthening or aerobic exercise program should be prescribed within 1 month of diagnosis | Saliba et al. (2004) | Knee OA | Nursing homes in the US |
| Strengthening or aerobic exercises | IF an ambulatory NH resident has a diagnosis of symptomatic knee osteoarthritis for >3 months, has no contraindication to exercise, and is physically and mentally able to exercise THEN there should be evidence that a directed or supervised strengthening or aerobic exercise program was prescribed at least once since the time of diagnosis | Saliba et al. (2004) | Knee OA | Nursing homes in the US |
| Strengthening or aerobic exercises | IF an ambulatory homebound patient is newly diagnosed with osteoarthritis of the knee, has no contraindication to exercise, and is physically and mentally able to exercise, THEN a directed or supervised strengthening or aerobic exercise program should be prescribed within 3 months of diagnosis. | Smith et al. (2007) | Knee OA | Home-based primary care setting in the US |
| Strengthening or aerobic exercises | IF an ambulatory person aged 65 or older has had a diagnosis of symptomatic osteoarthritis of the knee for longer than 3 months and has no contraindications to exercise and is physically and mentally able to exercise, THEN a directed or supervised strengthening or aerobic | Steel et al. (2004) | Knee OA | Primary and secondary care setting in the UK |

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| | exercise programme should have been prescribed at least once. | | | |
| Strengthening or aerobic exercises | IF an ambulatory homebound patient has had a diagnosis of symptomatic osteoarthritis of the knee for longer than 12 months and is physically and mentally able to exercise, THEN there should be evidence that a physical therapy evaluation for focused strengthening exercises was prescribed at least once since the time of diagnosis. | Smith et al. (2007) | Knee OA | Home-based primary care setting in the US |
| Strengthening or aerobic exercises | (Patients with knee/hip OA who have documented recommendations for general aerobic and/or muscle strengthening exercise at least once per year, unless contraindicated (e.g. significant heart failure)/ Total number of patients with KHOA without contraindications for general aerobic exercise) * 100: the higher, the better the quality of care | Doubova et al. (2015) | Knee/hip OA | Primary care setting; family medicine in Mexico |
| Strengthening, aerobic, and functional exercises | If a patient has knee OA, then exercise therapy should be prescribed, including at least muscle strengthening, aerobic exercises and functional exercises, and combined with range of motion exercises in case of range of motion restrictions. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Improving aerobic capacity | Treating patients with improving of aerobic capacity | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Functional exercises | Treating patients with functional exercises | Peter et al. (2013) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Exercise therapy | Providers caring for patients with symptoms of hip or knee OA should recommend both of the following at least once in 2 years: exercise programs for persons with hip or knee OA. | Moore et al. (2000) | OA not related to specific sites | US healthcare system |
| Exercise therapy | Providers caring for patients with symptoms of hip or knee osteoarthritis should recommend exercise programs at least once in 2 years. | Asch et al. (2004) | Knee/hip OA | US healthcare system |
| Advice on exercise or activities | You have been offered information or advice on exercise or activity to help with your joint problem | Blackburn et al. (2016) | OA not related to specific sites | Primary care setting in the UK |

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| Exercise therapy tailored to patients' goals | If a patient with knee OA is following exercise therapy, then the content and intensity of the exercise program should be tailored to the patient's individual goals in terms of limitations of activity and restrictions of participation. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Frequency of exercise therapy sessions | If a patient with knee OA is following exercise therapy, then the treatment sessions should be spread over longer periods with lower frequencies in the later stages of the exercise program to facilitate the transition from exercise therapy to independent exercising and maintaining sufficient level of physical activity. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Regular evaluations of exercise therapy | If a patient with knee OA is following exercise therapy, then regular evaluations by the physiotherapist are necessary. To make the switchover from a supervised to an autonomous program, an evaluation session should be performed every 3 months in the first year, every 6 months in the second year, and once per year afterward. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Combining exercise therapy with education/self-management interventions | If a patient with knee OA is following exercise therapy, then the exercise therapy should be combined with education/self-management interventions to improve patients' mental and physical performance and to alleviate pain. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Process: weight counselling | | | | |
| Advice about body weight and joint pain | You have received advice about body weight and joint pain | Blackburn et al. (2016) | OA not related to specific sites | Primary care setting in the UK |
| Advice to lose weight | (Overweight (BMI ≥ 27 kg/m ²) patients with KHOA who have documented nutritional counselling provided by the Nutrition and Dietary Service and/or who were encouraged by their family physician at least one time per year to lose weight/ Total number of overweight patients with KHOA) * 100: the higher, the better the quality of care | Doubova et al. (2015) | Knee/hip OA | Primary care setting; family medicine in Mexico |
| Advice to lose weight | If a patient with knee OA is overweight, then he/she should be encouraged to lose weight and maintain his/her weight at a lower level. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |

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| Advice to lose weight | IF an individual is overweight (as defined by body mass index of >27 kg/m ²), THEN the individual should be advised to lose weight annually. | MacLean et al. (2004) | OA not related to specific sites | US healthcare system |
| Advice to lose weight | IF a patient has symptomatic osteoarthritis of the knee or hip and is overweight (as defined by body mass index of >27 kg/m ²), THEN the patient should be advised to lose weight at least annually AND the benefit of weight loss on the symptoms of osteoarthritis should be explained to the patient. | MacLean et al. (2004) | Knee/hip OA | US healthcare system |
| Advice to lose weight | Providers caring for patients with symptoms of hip or knee OA should recommend weight loss among persons with knee OA and a BMI >25 following at least once in 2 years. | Moore et al. (2000) | OA not related to specific sites | US healthcare system |
| Advice to lose weight | Have you been advised to lose weight, if you are overweight? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Process: 'do not do' QIs | | | | |
| No massage therapy | No massage therapy (benchmark <10%) | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| No physical modalities | No use of physical modalities other than TENS (e.g. pulsed shortwave) (benchmark <10%) | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| No brace prescription | If a patient has knee OA, then a brace should not be prescribed (except in unicompartmental knee OA with axial deviation). | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Process: pharmacological treatment | | | | |
| Paracetamol as first-line pharmacologic therapy | Patients who were prescribed paracetamol (numerator)/ all patients with a drug prescription for osteoarthritis in the past month (denominator) | VandenBerghe et al. (2004) | OA not related to specific sites | General practice in Belgium (primary care) |
| Paracetamol as first-line pharmacologic therapy | Patients with a new diagnosis of osteoarthritis who wish to take medication for joint symptoms should be offered a trial of paracetamol if not already tried. | Marshall et al. (2003) | OA not related to specific sites | General practices in the UK health care systems |
| Paracetamol as first-line pharmacologic therapy | Patients with a new diagnosis of OA who wish to take medication for joint symptoms should be offered a trial of acetaminophen. | Moore et al. (2000) | OA not related to specific sites | US healthcare system |

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| Paracetamol as first-line pharmacologic therapy | IF oral pharmacological therapy is initiated to treat osteoarthritis among people aged ≥ 50 years, THEN paracetamol should be the first drug used, unless there is a contraindication to use. | Hardcastle et al. (2015) | OA not related to specific sites | UK healthcare system |
| Paracetamol as first-line pharmacologic therapy | Patients with a new diagnosis of osteoarthritis who wish to take medication for joint symptoms should be offered a trial of acetaminophen. | Asch et al. (2004) | OA not related to specific sites | US healthcare system |
| Paracetamol as first-line pharmacologic therapy | The percentage of patients in whom oral pharmacological therapy was initiated to treat osteoarthritis, whose notes contain a record that they were offered paracetamol first (unless contraindicated) | Broadbent et al. (2008) | OA not related to specific sites | Primary care in the UK general practice |
| Paracetamol as first-line pharmacologic therapy | IF oral pharmacologic therapy is initiated to treat osteoarthritis in a vulnerable elder, THEN acetaminophen should be the first drug used, unless there is a documented contraindication to use, BECAUSE this agent is as effective in treating osteoarthritis as other oral agents, and it is less toxic. | MacLean et al. (2001) | OA not related to specific sites | US healthcare system |
| Paracetamol as first-line pharmacologic therapy | IF a VE is started on pharmacological therapy to treat OA, THEN acetaminophen should be tried first, BECAUSE acetaminophen achieves pain relief comparable to that of an NSAID (nonselective and selective) for many patients and is associated with a lower burden of common serious adverse events. | MacLean et al. (2007) | OA not related to specific sites | US healthcare system |
| Paracetamol as first-line pharmacologic therapy | IF a nonnarcotic pharmacologic therapy is initiated to treat osteoarthritis pain of mild or moderate severity, THEN acetaminophen should be the first drug used, unless there is a documented contraindication to use. | MacLean et al. (2004) | OA not related to specific sites | US healthcare system |
| Paracetamol as first-line pharmacologic therapy | IF oral pharmacologic therapy is initiated to treat osteoarthritis THEN acetaminophen should be the first drug used | Saliba et al. (2004) | OA not related to specific sites | Nursing homes in the US |
| Paracetamol as first-line pharmacologic therapy | IF oral pharmacologic therapy is initiated to treat osteoarthritis in a homebound patient, THEN acetaminophen should be the first drug used, unless there is a documented contraindication to use | Smith et al. (2007) | OA not related to specific sites | Home-based primary care setting in the US |

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| Paracetamol as first-line pharmacologic therapy | IF oral pharmacological therapy is initiated to treat osteoarthritis among people aged 65 or older, THEN paracetamol should be the first drug used, unless there is a contraindication to use. | Steel et al. (2004) | OA not related to specific sites | Primary and secondary care setting in the UK |
| Paracetamol as first-line pharmacologic therapy | IF oral pharmacological therapy is initiated to treat osteoarthritis in an elder, THEN paracetamol (acetaminophen) should be the first drug used, UNLESS there is a documented contra-indication. | Wierenga et al. (2011) | OA not related to specific sites | Dutch in-hospital pharmaceutical care |
| Paracetamol as first-line pharmacologic therapy | If you have joint pain, was paracetamol the first medication that was recommended? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Paracetamol as first-line pharmacologic therapy | (Patients with newly diagnosed of KHOA who received prescription of acetaminophen as initial oral analgesic, otherwise contraindicated/ Total number of patients with recent diagnosis of KHOA) * 100: the higher, the better the quality of care | Doubova et al. (2015) | Knee/hip OA | Primary care setting; family medicine in Mexico |
| Paracetamol as first-line pharmacologic therapy | If a patient has knee OA, then acetaminophen up to 3 g/day should be used as the initial oral analgesic. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Trial of maximum-dose acetaminophen before changing from acetaminophen to different oral agent | The percentage of patients in whom oral pharmacological therapy was changed from paracetamol to a different oral agent, whose notes contain a record that they were offered a trial of maximum-dose paracetamol | Broadbent et al. (2008) | OA not related to specific sites | Primary care in the UK general practice |
| Trial of maximum-dose acetaminophen before changing from acetaminophen to different oral agent | IF oral pharmacologic therapy for osteoarthritis in a vulnerable elder is changed from acetaminophen to a different oral agent, THEN there should be evidence that the patient has had a trial of maximum-dose acetaminophen (suitable for age and comorbid conditions) BECAUSE acetaminophen, in adequate doses, is as effective in treating osteoarthritis as other oral agents, and it is less toxic. | MacLean et al. (2001) | OA not related to specific sites | US healthcare system |

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| Trial of maximum-dose acetaminophen before changing from acetaminophen to different oral agent | IF oral pharmacologic therapy for osteoarthritis is changed from acetaminophen to a different oral agent, THEN there should be evidence that the patient has had a trial of maximum-dose acetaminophen (suitable for age/comorbidities). | MacLean et al. (2004) | OA not related to specific sites | US healthcare system |
| Trial of maximum-dose acetaminophen before changing from acetaminophen to different oral agent | IF oral pharmacologic therapy for symptomatic osteoarthritis is changed from acetaminophen to a different oral agent THEN there should be evidence that the NH resident has had a trial of maximum dose acetaminophen (suitable for age and comorbid conditions) | Saliba et al. (2004) | OA not related to specific sites | Nursing homes in the US |
| Trial of maximum-dose acetaminophen before changing from acetaminophen to different oral agent | IF oral pharmacologic therapy for osteoarthritis in a homebound patient is changed from acetaminophen to a different oral agent, THEN there should be evidence that the patient has had a trial of maximum-dose acetaminophen (suitable for age and comorbid conditions). | Smith et al. (2007) | OA not related to specific sites | Home-based primary care setting in the US |
| Trial of maximum-dose acetaminophen before changing from acetaminophen to different oral agent | IF oral pharmacological therapy for osteoarthritis is changed from paracetamol to a different oral agent among people aged 65 or older, THEN the patient should have had a trial of maximum dose paracetamol (suitable for age/comorbidities). | Steel et al. (2004) | OA not related to specific sites | Primary and secondary care setting in the UK |
| Trial of maximum-dose acetaminophen before changing from | IF oral pharmacological therapy for osteoarthritis in an elder is changed from paracetamol (acetaminophen) to a different oral agent, THEN there should be evidence that the patient has had a trial of maximum dose of paracetamol (suitable for age and co-morbid conditions). | Wierenga et al. (2011) | OA not related to specific sites | Dutch in-hospital pharmaceutical care |

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| acetaminophen to different oral agent | | | | |
| NSAID prescription | Patients which were not prescribed an NSAID (numerator)/ all patients with a drug prescription for osteoarthritis in the past month (denominator) | VandenBerghe et al. (2004) | OA not related to specific sites | General practice in Belgium (primary care) |
| NSAID prescription | Patients who were prescribed a coxib (numerator)/ all patients who received an NSAID for osteoarthritis in the past month (denominator) | VandenBerghe et al. (2004) | OA not related to specific sites | General practice in Belgium (primary care) |
| NSAID prescription | Patients who did not received a repeated prescription/ all patients who received an NSAID for osteoarthritis in the past month (denominator) | VandenBerghe et al. (2004) | OA not related to specific sites | General practice in Belgium (primary care) |
| NSAID prescription | If NSAIDs are considered, Ibuprofen should be considered for first line treatment unless contraindicated or intolerant. | Marshall et al. (2003) | OA not related to specific sites | General practices in the UK health care systems. |
| NSAID prescription | The percentage of patients with osteoarthritis treated with an NSAID, whose notes contain a record that ibuprofen (or a cox-2 inhibitor) has been considered for first-line treatment (unless contraindicated or intolerant) | Broadbent et al. (2008) | OA not related to specific sites | Primary care in the UK general practice |
| NSAID prescription | (Patients aged 65 years or older with KHOA and one of the following comorbidities (history of peptic ulcer disease or gastrointestinal bleeding, chronic kidney disease, cardiac insufficiency and/or those receiving anticoagulant or glucocorticoids) who receive NSAID prescription/ Total number of patients aged 65 years or older with KHOA and one of the previously mentioned comorbidities)* 100= the lower, the better the quality of care | Doubova et al. (2015) | Knee/hip OA | Primary care setting; family medicine in Mexico |
| NSAID prescription | If a patient has knee OA and there is no adequate response on acetaminophen, or there is severe pain and/or inflammation, then oral NSAID should be used. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| NSAID prescription | If NSAID are used in a patient with knee OA, then they should be used intermittently (max 3 weeks sustained use) and at the lowest effective dose. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| NSAID prescription | If a patient with knee OA has heart failure grade 2–4, ischemic heart disease, or renal insufficiency with a GFR < 40 | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |

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| | ml/min, then NSAID should not be used. In case of other cardiovascular risk factors (e.g., hypertension, ...), NSAID should be used with caution. | | | |
| NSAID prescription concomitant with either misoprostol or proton-pump inhibitor | Patients with osteoarthritis prescribed oral NSAIDs who are at high risk of gastrointestinal side effects (past history of dyspepsia or known peptic ulcer) should be considered for a co-prescription of PPIs, H2 antagonists or Misoprolol, unless contraindicated or intolerant | Marshall et al. (2003) | OA not related to specific sites | General practices in the UK health care systems. |
| NSAID prescription concomitant with either misoprostol or proton-pump inhibitor | (Patients with KHOA and high risk for gastrointestinal complications who received NSAID prescription concomitant with either misoprostol or a proton-pump inhibitor/ Total number of patients with KHOA and high risk of gastrointestinal complications who received NSAIDs) * 100= the higher, the better the quality of care. | Doubova et al. (2015) | Knee/hip OA | Primary care setting; family medicine in Mexico |
| NSAID prescription concomitant with either misoprostol or proton-pump inhibitor | If a patient with knee OA and a history of bleeding gastric ulcers has a need for NSAID, then either a COX-2 selective agent or a non-selective NSAID with coprescription of a proton pump inhibitor/misoprostol should be used instead of a non-selective NSAID. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| NSAID prescription concomitant with either misoprostol or proton-pump inhibitor | IF a VE with a risk factor for GI bleeding (aged ≥75, peptic ulcer disease, history of GI bleeding, warfarin use, chronic glucocorticoid use) is treated with a nonselective NSAID, THEN he or she should be treated concomitantly with misoprostol or a proton pump inhibitor (PPI) | MacLean et al. (2007) | OA not related to specific sites | US healthcare system |
| NSAID prescription concomitant with either misoprostol or proton-pump inhibitor | IF a VE with two or more risk factors for GI bleeding (aged ≥75, peptic ulcer disease, history of GI bleeding, warfarin use, chronic glucocorticoid use) is treated with daily aspirin, THEN he or she should be treated concomitantly with either misoprostol or a PPI, BECAUSE this will reduce the risk of GI bleeding. | MacLean et al. (2007) | OA not related to specific sites | US healthcare system |
| NSAID prescription concomitant with either misoprostol | IF a vulnerable elder is older than 75 years of age, is treated with warfarin, or has a history of peptic ulcer disease or gastrointestinal bleeding, AND is being treated with a COX | MacLean et al. (2001) | OA not related to specific sites | US healthcare system |

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| or proton-pump inhibitor | nonselective NSAID, THEN he or she should be offered concomitant treatment with either misoprostol or a proton-pump inhibitor BECAUSE this will substantially reduce the risk for NSAID-induced gastrointestinal bleeding. | | | |
| Informing patients about risks of medication use | IF a patient is treated with a COX nonselective nonsteroidal anti-inflammatory drug (NSAID), THEN there should be evidence that the patient was advised of the risk for gastrointestinal bleeding associated with these drugs BECAUSE this risk is substantial. | MacLean et al. (2001) | OA not related to specific sites | US healthcare system |
| Informing patients about risks of medication use | IF a patient is treated with a COX-nonselective NSAID, THEN there should be evidence that the patient was advised of the risk for gastrointestinal bleeding, as well as cardiovascular risk associated with these drugs. | Smith et al. (2007) | OA not related to specific sites | Home-based primary care setting in the US |
| Informing patients about risks of medication use | The percentage of patients with osteoarthritis treated with an NSAID, whose notes contain a record that they have been advised of the gastrointestinal and renal risks associated with this drug | Broadbent et al. (2008) | OA not related to specific sites | Primary care in the UK general practice |
| Screening patients for risks of medication use | The percentage of patients with osteoarthritis regularly treated with an NSAID, whose notes contain a record that they have been asked about gastrointestinal symptoms within the previous 12 months | Broadbent et al. (2008) | OA not related to specific sites | Primary care in the UK general practice |
| Informing patients about risks of medication use | If you use anti-inflammatory medications, have you been given information about the effects and possible side-effects of this medication? (e.g. ibuprofen (Nurofen, Brufen), diclofenac (Voltarol), naproxen (Naprosyn), celecoxib (Celebrex)) | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Informing patients about risks of medication use | IF aVE is prescribed chronic high-dose acetaminophen (≥ 3 g/d) or a VE with liver disease is prescribed chronic acetaminophen, THEN he or she should be advised of the risk of liver toxicity, BECAUSE these risks are greater with high doses of acetaminophen and when underlying liver disease is present. | MacLean et al. (2007) | OA not related to specific sites | US healthcare system |

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| Informing patients about risks of medication use | IF a VE is prescribed an NSAID (non- selective or selective), THEN GI bleeding risks should be discussed and documented | MacLean et al. (2007) | OA not related to specific sites | US healthcare system |
| Informing patients about risks of medication use | IF a VE is prescribed daily aspirin (including low-dose, <325mg/d), THEN GI bleeding risks should be discussed and documented, BECAUSE selective NSAIDs, non-selective NSAIDs, and aspirin increase the risk of bleeding. | MacLean et al. (2007) | OA not related to specific sites | US healthcare system |
| Corticosteroid injection | If you have experienced an acute deterioration of your symptoms, have you been given or offered a steroid injection? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Drug prescription | Patients without a drug prescription for osteoarthritis in the past month (numerator)/ all patients with osteoarthritis (denominator) | VandenBerghe et al. (2004) | OA not related to specific sites | General practice in Belgium (primary care) |
| Chondroitin and glucosamine-chondroitin | If a patient has knee OA, then chondroitin and glucosamine-chondroitin combination products should not be used. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Opioids | If a patient has knee OA, then strong opioids (oxymorphone, oxycodone, fentanyl, morphine sulfate) should not be used. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Offering stronger pain killers (e.g., co-proxamol, co-dydramol, tramadol, co-codamol, dihydrocodeine, codeine) | If you have prolonged severe joint pain, which is not relieved sufficiently by paracetamol, have you been offered stronger pain killing medications? (e.g. co-codamol, codeine, tramadol, co-proxamol, co-dydramol, dihydrocodeine) | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Process: referral | | | | |
| Referral to exercise or activity programmes | You have been offered a referral to an exercise or activity programme for your joint problem. | Blackburn et al. (2016) | OA not related to specific sites | Primary care setting in the UK |
| Referral to physiotherapy | You have been offered a referral for physiotherapy for your joint problem. | Blackburn et al. (2016) | OA not related to specific sites | Primary care setting in the UK |
| Referral to a physical therapist | If a patient has symptomatic knee OA, then he/she has to be referred to a physical therapist for instruction of the patient | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |

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| | in appropriate exercises, for motivation of the patient to implement exercise and adhere to exercise, and to evaluate performance. | | | |
| Referral for physical activity and exercise therapy | Have you been referred or offered a referral to a health professional who can advise you about physical activity and exercise? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Referral to regular community exercise and sports activities after a period of supervised exercise. | If a patient with knee OA is following exercise therapy, then he/she should be referred to regular community exercise and sports activities after a period of supervised exercise. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Referral to weight loss services | You have received a referral for weight loss services. | Blackburn et al. (2016) | OA not related to specific sites | Primary care setting in the UK |
| Referral to weight loss services | IF a patient has symptomatic osteoarthritis of the knee or hip and has been overweight (as defined by body mass index of ≥ 27 kg/m ² for >3 years), THEN the patient should receive referral to a weight loss program. | MacLean et al. (2004) | Hip/knee OA | US healthcare system |
| Referral to weight loss services | Have you been referred or offered a referral to someone who can help you to lose weight, if you are overweight? | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |
| Referral to an orthopaedic surgeon | IF a vulnerable elder with severe symptomatic osteoarthritis of the knee or hip has failed to respond to nonpharmacologic and pharmacologic therapy and has no contraindication to surgery, THEN the patient should be referred to an orthopedic surgeon to be evaluated for total joint replacement within 6 months unless a contraindication to surgery is documented BECAUSE hip and knee replacements markedly improve function and quality of life by reducing pain and/or improving range of motion. | MacLean et al. (2001) | Knee/hip OA | US healthcare system |
| Referral to an orthopaedic surgeon | IF a VE has severe symptomatic OA of the knee or hip despite nonsurgical therapy, THEN a referral to an orthopedic surgeon should be made, BECAUSE joint surgery | MacLean et al. (2007) | Hip/knee OA | US healthcare system |

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| | may reduce pain and improve functional status and quality of life. | | | |
| Referral to an orthopaedic surgeon | Patients with severe symptomatic osteoarthritis of the knee or hip who have failed to respond to conservative therapy should be offered referral to an orthopaedic surgeon for consideration of joint replacement. | Marshall et al. (2003) | OA not related to specific sites | General practices in the UK health care systems. |
| Referral to an orthopaedic surgeon | IF a patient with severe symptomatic osteoarthritis of the knee or hip has failed to respond to nonpharmacologic and pharmacologic therapy, THEN the patient should be offered referral to an orthopedic surgeon. | MacLean et al. (2004) | Hip/knee OA | US healthcare system |
| Referral to an orthopaedic surgeon | IF a person aged ≥ 50 years with severe symptomatic osteoarthritis of the knee or hip has failed to respond to non-pharmacological and pharmacological therapy, THEN the patient should be offered referral to an orthopaedic surgeon to be evaluated for total joint replacement within 6 months unless surgery is contraindicated. | Hardcastle et al. (2015) | OA not related to specific sites | UK healthcare system |
| Referral to an orthopaedic surgeon | IF a person aged 65 or older with severe symptomatic osteoarthritis of the knee or hip has failed to respond to non- pharmacological and pharmacological therapy, THEN the patient should be offered referral to an orthopaedic surgeon to be evaluated for total joint replacement within 6 months unless surgery is contraindicated. | Steel et al. (2004) | Hip/knee OA | Primary and secondary care setting in the UK |
| Referral to an orthopaedic surgeon | The percentage of patients with severe symptomatic osteoarthritis of the knee or hip that has failed to respond to non-pharmacological and pharmacological therapy, whose notes contain a record that they were offered referral to an orthopaedic surgeon to be evaluated for total joint replacement within 6 months unless surgery is contraindicated. | Broadbent et al. (2008) | Hip/knee OA | Primary care in the UK general practice |
| Referral to an orthopaedic surgeon | If you are severely troubled by your osteoarthritis, and exercise and medication do not help, have you been referred or offered a referral for an assessment for operation? (e.g. joint replacement) | Østerås et al. (2018) | OA not related to specific sites | Norwegian healthcare system |

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| Referral for laboratory tests | (Patients with KHOA and with NSAID prescription for 6 months or longer who were referred for the following laboratory tests (blood count, serum creatinine and liver enzymes) at least once in the previous 12 months / Total number of patients with KHOA and with NSAID prescription for 6 months or longer) * 100: the higher, the better the quality of care. | Dobova et al. (2015) | Knee/hip OA | Primary care setting; family medicine in Mexico |
| Referral time | Time from OA referral receipt to referral completion for initially incomplete referrals. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Referral time | Time from receipt of complete OA referral to musculoskeletal appointment. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| QI specifically regarding Western Canada Waiting List | Distribution of OA referrals in each urgency category (as scored using the Western Canada Waiting List referral tool). | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| QI specifically regarding Western Canada Waiting List | Percentage of OA referrals triaged as highest urgency based on high Western Canada Waiting List priority criteria scores seen within Wait Time Alliance benchmarks . | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| QI specifically regarding Western Canada Waiting List | Percentage of OA referrals scored using Western Canada Waiting List priority referral criteria. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Referrals to centralized intake care rejected or redirected | Percentage of referrals rejected or redirected when received at centralized intake. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Referral with complete information | Percentage of OA referrals received with complete information. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Referral received through centralized intake care | Number of referrals received through centralized intake | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |

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| Agreement of severe OA in candidates for joint replacement | Agreement of centralized intake suspected diagnosis of severe OA cases (e.g., patients who are candidates for hip or knee joint replacements) versus confirmed diagnosis of severe OA. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care in Canada |
| Process: indication for surgery | | | | |
| Indication for knee replacement | If a patient with knee OA is not obtaining adequate pain relief and functional improvement, then he/she should be considered for joint replacement. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Indication for unicompartmental knee replacement | If a patient has unicompartmental knee OA, then a unicompartmental knee replacement should be considered. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| No arthroscopic interventions | If a patient has knee OA, then arthroscopic interventions are not recommended. Coexisting meniscal lesions should not be treated. Only in case of locking of the knee from a large meniscal fragment or a loose body or an extension loss from an anterior anvil osteophyte is arthroscopic treatment indicated. | Grypdonck et al. (2014) | Knee OA | Entire spectrum of disciplines |
| Operating room time | Operating room time for arthroplasty surgeons in Alberta. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Process: documentation | | | | |
| Documentation of symptoms, limitations in daily activities, systemic or inflammatory disease, and use and effectiveness of treatment \geq once in 2 years | Providers caring for patients with symptoms of OA should document all of the following at least once in 2 years: a. the location of symptoms; b. the presence or absence of limitations in daily activities; c. the presence or absence of a history or symptoms of systemic or inflammatory disease; d. the use and effectiveness of treatment modalities. | Moore et al. (2000) | OA not related to specific sites | US healthcare system |
| Documentation of symptoms, limitations in daily | Providers caring for patients with symptoms of osteoarthritis should document all of the following at least once in 2 years: the location of symptoms and/or the presence or absence of limitations in daily activities. | Asch et al. (2004) | OA not related to specific sites | US healthcare system |

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| activities \geq once in 2 years | | | | |
| Documentation of parameters from physical examination \geq once in 2 years | Providers caring for patients with symptoms of OA should document the following for any one affected joint at least once in 2 years: a. the presence or absence of effusion; b. the presence or absence of bony enlargement; c. the presence or absence of tenderness; d. the presence or absence of limitations in range of motion. | Moore et al. (2000) | OA not related to specific sites | US healthcare system |
| Documentation the presence or absence of systemic or inflammatory disease, and joint trauma or surgery in patients with incident OA | Providers caring for patients with incident symptoms of OA should document at least one of the following: • the presence or absence of a history of any systemic or inflammatory disease that may mimic OA; • the presence or absence of any current symptoms of systemic or inflammatory disease that may mimic OA; • the presence or absence of a history of joint trauma or surgery. | Moore et al. (2000) | OA not related to specific sites | US healthcare system |
| Recording of problem areas | Problem areas recorded (i.e. inflammation, pain, impairments of function, activity limitations, participation restrictions, and passive coping behaviour) (benchmark >90%) | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Recording of patient profile | Patient profile recording according to the Dutch physiotherapy guidelines (benchmark >90%) | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Process: Follow up, treatment frequency, duration and aftercare | | | | |
| Follow up review | You have been given a follow-up review of your joint problem. | Blackburn et al. (2016) | OA not related to specific sites | Primary care setting in the UK |
| Follow up review | Patients receiving care for symptoms of OA should be seen in follow-up at least every 6 months. | Moore et al. (2000) | OA not related to specific sites | US healthcare system |
| Total number of sessions | Number of sessions lower than 12 | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Duration of treatment episode | Duration of treatment episode less than 6 weeks | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |

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| Treatment frequency | Treatment frequency | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Aftercare | Aftercare (e.g. home exercise programme, follow up consultation, advice to participate in community based or sport programmes) | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Outcome | | | | |
| Healthcare providers' experience | Musculoskeletal specialty care provider experience with centralized intake. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Healthcare providers' experience | Administrative staff and allied health professional experience with centralized intake. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Healthcare providers' experience | Referring clinician's experience with centralized intake. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Patient experience | Patient experience with centralized intake. | Barber et al. (2016) | OA not related to specific sites | Centralized intake care system in Canada |
| Patient satisfaction | You are satisfied with the overall quality of the consultation with his/her GP for OA. | Blackburn et al. (2016) | OA not related to specific sites | Primary care setting in the UK |
| Patient satisfaction | Patients satisfaction with treatment* | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Level of pain | VAS for severity of pain decrease of more than 25% | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Level of pain and function | Global perceived effect either for pain or for restrictions in daily activities (5 point Likert scale)* | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Functional capacity | Algofunctional index decrease of more than 25% | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |
| Achievement of treatment goals | The extent to which the treatment goals were achieved* | Jansen et al. (2010) | Knee and hip OA | Physiotherapy care in the Netherlands |

* No specific threshold reported in the article; QIs are developed based on the Dutch physiotherapy guideline and further information on thresholds is documented in the recommendations of this guideline.