

## Supplementary Material 1. Search Strategy

### Search strategy for Web of Science:

Search number	Search strategy	Results
#1	(TS= (juvenile idiopathic arthritis)) AND TS=(guideline) and 1.106.1646 Juvenile Idiopathic Arthritis (Citation Topics Micro)	244
#2	((TS= (juvenile idiopathic arthritis))) AND TI=(quality) and 1.106.1646 Juvenile Idiopathic Arthritis (Citation Topics Micro)	116
#3	#1 OR #2	357

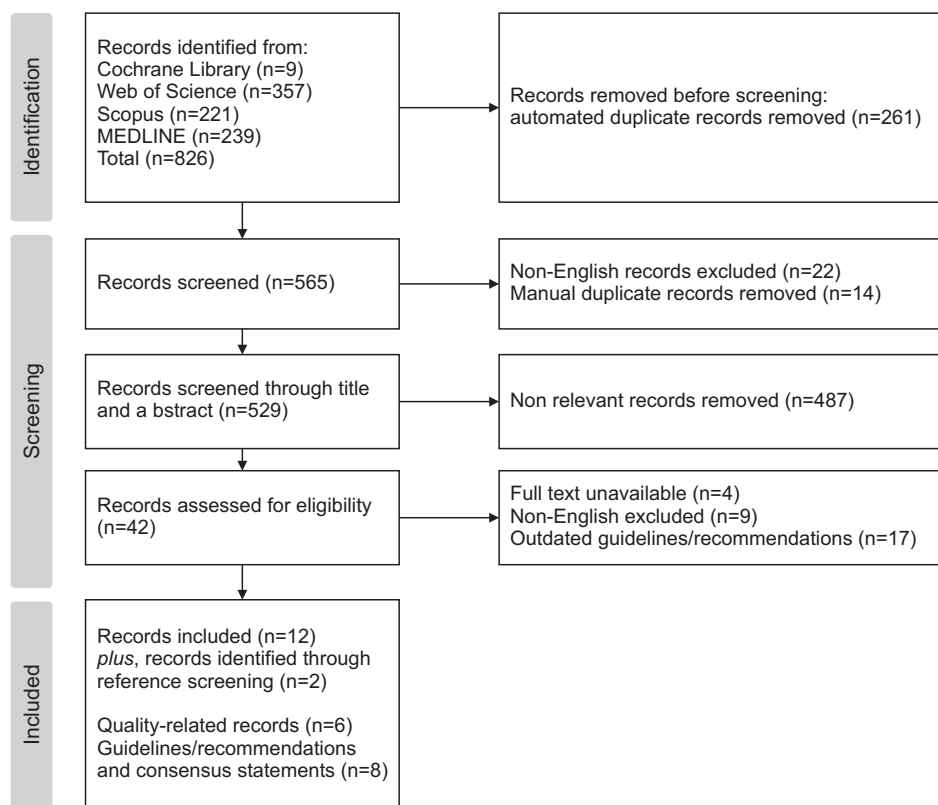
### Search strategy for Scopus:

Search number	Search strategy	Results
#1	((TITLE-ABS-KEY (juvenile AND idiopathic AND arthritis) AND TITLE (quality))) OR ((TITLE-ABS-KEY (juvenile AND idiopathic AND arthritis) AND TITLE (guideline)))	221

### Search strategy for MEDLINE through PubMed:

Search number	Search strategy	Results
#1	"Arthritis, Juvenile"[Mesh]	11,649
#2	("Arthritis, Juvenile"[Mesh]) AND (quality [Title/Abstract])	603
#3	((("Guideline" [Publication Type]) OR "Guidelines as Topic"[Mesh]) OR "Guideline Adherence"[Mesh]) OR "Practice Guideline" [Publication Type]	227,756
#4	("Arthritis, Juvenile"[Mesh]) AND (((("Guideline" [Publication Type]) OR "Guidelines as Topic"[Mesh]) OR "Guideline Adherence"[Mesh]) OR "Practice Guideline" [Publication Type])	101
#5	((("Arthritis, Juvenile"[Mesh]) AND (quality [Title])) OR ((("Arthritis, Juvenile"[Mesh]) AND (((("Guideline" [Publication Type]) OR "Guidelines as Topic"[Mesh]) OR "Guideline Adherence"[Mesh]) OR "Practice Guideline" [Publication Type])))	239

## Supplementary Material 2. PRISMA flow diagram



## REFERENCES

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## Supplementary Material 3. Level of evidence for candidate QIs

Quality indicator	Statement	Level of evidence
Domain 1: Access to care		
QI (1)	IF a patient is referred with possible juvenile idiopathic arthritis (JIA), THEN they should be seen by a pediatric rheumatologist within 4 weeks from the date of referral.	B
Domain 2: Clinical assessment		
QI (2)	IF a patient has JIA, THEN a parent's or patient's global assessment of disease activity using a valid and reliable age-appropriate tool should be performed at the first visit and repeated at each subsequent visit.	B
QI (3)	IF a patient has JIA, THEN an assessment of functional ability using a valid and reliable age-appropriate tool should be performed at the first visit and repeated every 6 months.	C
QI (4)	IF a patient has JIA, THEN a physician's global assessment of disease activity using a valid and reliable age-appropriate tool should be performed at the first visit and repeated at each subsequent visit.	B
QI (5)	IF a patient has JIA, THEN a full active joint count should be performed at the first visit and repeated at each subsequent visit.	C
QI (6)	IF a patient has JIA, THEN an assessment of the health-related quality of life using a valid and reliable age-appropriate tool should be performed at the first visit and repeated every 6 months.	B
QI (7)	IF a patient has JIA, THEN a valid and reliable age-appropriate tool to measure disease activity should guide treatment decisions to facilitate a treat-to-target approach.	B
QI (8)	IF a patient has JIA, THEN antinuclear antibody (ANA), rheumatoid factor (RF), anti-cyclic citrullinated peptide (anti-CCP), and HLA-B27 should be performed as appropriate at the first visit and repeated for confirmation as indicated.	B
Domain 3: Medication & medication monitoring		
QI (9)	IF a patient has JIA, THEN medications should be chosen according to published clinical practice guidelines and local availability.	A
QI (10)	IF a patient with JIA is on non-steroidal anti-inflammatory drugs (NSAIDs), THEN baseline monitoring via complete blood count, liver and renal function tests, and a urinalysis should be performed and repeated every 6 to 12 months.	B
QI (11)	IF a patient has JIA, THEN screening for tuberculosis should be performed prior to initiating treatment with a biologic DMARD and repeated whenever there is a concern for exposure.	B
QI (12)	IF a patient with JIA is on methotrexate, THEN folic/folinic acid should be prescribed.	A
QI (13)	IF a patient with JIA is on methotrexate, sulfasalazine, or leflunomide, THEN baseline monitoring via complete blood count, liver and kidney function tests, and a urinalysis should be performed and repeated every 3~4 months.	B
QI (14)	IF a patient with JIA is on TNF inhibitors, THEN baseline monitoring via complete blood count and liver function tests should be performed and repeated yearly.	B
QI (15)	IF a patient with JIA is on tocilizumab, THEN baseline monitoring via complete blood count, and liver and renal function tests should be performed and repeated every 3~4 months with lipid monitoring every 6 months.	B
QI (16)	IF a patient with JIA is on canakinumab or anakinra, THEN baseline monitoring via complete blood count and liver function test should be performed and repeated every 3~4 months.	B
QI (17)	IF a patient with JIA is on canakinumab or anakinra, THEN liver function tests should be monitored within the first 1~2 months and repeated every 3~4 months.	B
QI (18)	IF a patient with JIA is on tofacitinib, THEN baseline monitoring via complete blood count, and liver function test should be performed and repeated every 3~4 months.	B
QI (19)	IF a patient with JIA is on tofacitinib, THEN baseline monitoring via a lipid panel should be performed 1~2 months after initiating treatment.	B
QI (20)	IF a patient with JIA is on hydroxychloroquine, THEN baseline retinal screening should be performed and repeated yearly.	B
QI (21)	IF a patient with JIA is on hydroxychloroquine, THEN baseline monitoring via complete blood count, liver and kidney function test, and a urinalysis should be performed and repeated yearly.	B
QI (22)	IF a patient has JIA, THEN appropriate imaging studies should be performed as indicated.	B

Quality indicator	Statement	Level of evidence
Domain 4: Screening for comorbidities		
QI (23)	IF a patient has JIA, THEN ophthalmic screening for uveitis should be performed according to published clinical practice guidelines.	A
QI (24)	IF a patient has JIA, THEN monitoring growth (height, weight) should be performed at the first visit and repeated at each subsequent visit.	C
QI (25)	IF a patient has JIA, THEN screening and monitoring for osteoporosis (particularly if they are on corticosteroid therapy) via bone profile, vitamin D level, and bone density should be part of routine clinical assessment.	C
QI (26)	IF a patient has JIA, THEN monitoring mental health and well-being should be part of routine clinical assessment.	C
QI (27)	IF a patient has JIA, THEN referral to other services (physiotherapist, occupational therapist, dietitian, etc.) should be performed as indicated.	C
Domain 5: Counselling		
QI (28)	IF a patient has JIA, THEN the immunization status should be reviewed and optimized at diagnosis and annually thereafter in line with local immunization schedules.	A
QI (29)	IF a patient with JIA is engaging in high-risk behaviors that are detrimental to their health, THEN counselling should be provided at each visit (if not then annually).	C
QI (30)	IF a female patient (of childbearing age) has JIA, THEN counselling regarding appropriate contraception while on potentially teratogenic medications is performed at least yearly.	A
Domain 6: Self-efficacy and satisfaction with care		
QI (31)	IF a patient has JIA, THEN an assessment for self-efficacy using a valid and reliable tool should be performed within 6 months of the first visit and then every 6 months.	C
QI (32)	IF a patient has JIA, THEN an assessment of the satisfaction with care provided should be obtained within a year of the first visit and repeated yearly.	C

Agency for healthcare research and quality (AHRQ) level of evidence for practice guidelines

A	There is good research-based evidence to support the recommendation.
B	There is fair research-based evidence to support the recommendation.
C	The recommendation is based on expert opinion and panel consensus.
X	There is evidence of harm from this intervention.

## Supplementary Material 4. QIs rating from the first round

		Validity Median	Mean absolute deviation	Feasibility Median	Mean absolute deviation
Domain 1: Access to care					
1	IF a patient is referred with possible juvenile idiopathic arthritis (JIA), THEN they should be seen by a pediatric rheumatologist within 4 weeks from the date of referral.	9	0	7.5	0.5
Domain 2: Clinical assessment					
2	IF a patient has JIA, THEN a parent's or patient's global assessment of disease activity using a valid and reliable age-appropriate tool should be performed at the first visit and repeated at each subsequent visit.	9	0	7.5	1.5
3	IF a patient has JIA, THEN an assessment of functional ability using a valid and reliable age-appropriate tool should be performed at the first visit and repeated every 6 months.*	9	0	7	1
4	IF a patient has JIA, THEN a physician's global assessment of disease activity using a valid and reliable age-appropriate tool should be performed at the first visit and repeated at each subsequent visit.	9	0	8	1
5	IF a patient has JIA, THEN a full active joint count should be performed at the first visit and repeated at each subsequent visit.	9	0	9	0
6	IF a patient has JIA, THEN an assessment of the health-related quality of life using a valid and reliable age-appropriate tool should be performed at the first visit and repeated every 6 months.*	8	1	6.5	1.5
7	IF a patient has JIA, THEN a valid and reliable age-appropriate tool to measure disease activity should guide treatment decisions to facilitate a treat-to-target approach.	9	0	8	1
8	IF a patient has JIA, THEN antinuclear antibody (ANA), rheumatoid factor (RF), anti-cyclic citrullinated peptide (anti-CCP), and HLA-B27 should be performed as appropriate at the first visit and repeated for confirmation as indicated.*	9	0	7.5	1.5
Domain 3: Medication & medication monitoring					
9	IF a patient has JIA, THEN medications should be chosen according to published clinical practice guidelines and local availability.	9	0	9	0
10	IF a patient with JIA is on non-steroidal anti-inflammatory drugs (NSAIDs), THEN baseline monitoring via complete blood count, liver and renal function tests, and a urinalysis should be performed and repeated every 6 to 12 months.**	7.5	1.5	9	0
11	IF a patient has JIA, THEN screening for tuberculosis should be performed prior to initiating treatment with a biologic DMARD and repeated whenever there is a concern for exposure.	9	0	9	0
12	IF a patient with JIA is on methotrexate, THEN folic/folinic acid should be prescribed.	9	0	9	0
13	IF a patient with JIA is on methotrexate, sulfasalazine, or leflunomide, THEN baseline monitoring via complete blood count, liver and kidney function tests, and a urinalysis should be performed and repeated every 3~4 months.	9	0	9	0
14	IF a patient with JIA is on TNF inhibitors, THEN baseline monitoring via complete blood count and liver function tests should be performed and repeated yearly.	9	0	9	0
15	IF a patient with JIA is on tocilizumab, THEN baseline monitoring via complete blood count, and liver and renal function tests should be performed and repeated every 3~4 months with lipid monitoring every 6 months.	9	0	9	0

		Validity Median	Mean absolute deviation	Feasibility Median	Mean absolute deviation
16	IF a patient with JIA is on canakinumab or anakinra, THEN baseline monitoring via complete blood count and liver function test should be performed and repeated every 3~4 months.	9	0	9	0
17	IF a patient with JIA is on canakinumab or anakinra, THEN liver function tests should be monitored within the first 1~2 months and repeated every 3~4 months.	9	0	8.5	0.5
18	IF a patient with JIA is on tofacitinib, THEN baseline monitoring via complete blood count, and liver function test should be performed and repeated every 3~4 months.	9	0	9	0
19	IF a patient with JIA is on tofacitinib, THEN baseline monitoring via a lipid panel should be performed 1~2 months after initiating treatment.	8	1	9	0
20	IF a patient with JIA is on hydroxychloroquine, THEN baseline retinal screening should be performed and repeated yearly.	9	0	8	1
21	IF a patient with JIA is on hydroxychloroquine, THEN baseline monitoring via complete blood count, liver and kidney function test, and a urinalysis should be performed and repeated yearly.	8	1	8	1
22	IF a patient has JIA, THEN appropriate imaging studies should be performed as indicated.	9	0	8	1
Domain 4: Screening for comorbidities					
23	IF a patient has JIA, THEN ophthalmic screening for uveitis should be performed according to published clinical practice guidelines.	9	0	9	0
24	IF a patient has JIA, THEN monitoring growth (height, weight) should be performed at the first visit and repeated at each subsequent visit.	9	0	9	0
25	IF a patient has JIA, THEN screening and monitoring for osteoporosis (particularly if they are on corticosteroid therapy) via bone profile, vitamin D level, and bone density should be part of routine clinical assessment.*	9	0	8	1
26	IF a patient has JIA, THEN monitoring mental health and well-being should be part of routine clinical assessment.*	9	0	7	1.5
27	IF a patient has JIA, THEN referral to other services (physiotherapist, occupational therapist, dietitian, etc.) should be performed as indicated.*	9	0	7.5	1.5
Domain 5: Counselling					
28	IF a patient has JIA, THEN the immunization status should be reviewed and optimized at diagnosis and annually thereafter in line with local immunization schedules.	9	0	9	0
29	IF a patient with JIA is engaging in high-risk behaviors that are detrimental to their health, THEN counselling should be provided at each visit (if not, then annually).*	9	0	7	1
30	IF a female patient (of childbearing age) has JIA, THEN counselling regarding appropriate contraception while on potentially teratogenic medications is performed at least yearly.	9	0	8.5	0.5
Domain 6: Self-efficacy and satisfaction with care					
31	IF a patient has JIA, THEN an assessment for self-efficacy using a valid and reliable tool should be performed within 6 months of the first visit and then every 6 months.*	9	0	6.5	2
32	IF a patient has JIA, THEN an assessment of the satisfaction with care provided should be obtained within a year of the first visit and repeated yearly.	8.5	0.5	7	1

\*Disagreement on the feasibility of the QI.

\*\*Disagreement on the validity of the QI.

		Validity Median	Mean absolute deviation	Feasibility Median	Mean absolute deviation
<b>Domain 2: Clinical assessment</b>					
2	IF a patient has JIA, THEN a parent's or patient's global assessment of disease activity using a valid and reliable age-appropriate tool should be performed at the first visit and repeated at each subsequent visit.	8	0	8	1
4	IF a patient has JIA, THEN a physician's global assessment of disease activity using a valid and reliable age-appropriate tool should be performed at the first visit and repeated at each subsequent visit.	9	0	8	1
7	IF a patient has JIA, THEN a valid and reliable age-appropriate tool to measure disease activity should guide treatment decisions to facilitate a treat-to-target approach.	8	0	8	0
<b>Domain 3: Medication &amp; medication monitoring</b>					
19	IF a patient with JIA is on tofacitinib, THEN baseline monitoring via a lipid panel should be performed 1~2 months after initiating treatment.	8	1	8	1
20	IF a patient with JIA is on hydroxychloroquine, THEN baseline retinal screening should be performed and repeated yearly.	9	0	9	0
21	IF a patient with JIA is on hydroxychloroquine, THEN baseline monitoring via complete blood count, liver and kidney function test, and a urinalysis should be performed and repeated yearly.	8	1	9	0
22	IF a patient has JIA, THEN appropriate imaging studies should be performed as indicated.	9	0	9	0
<b>Domain 6: Self-efficacy and satisfaction with care</b>					
32	IF a patient has JIA, THEN an assessment of the satisfaction with care provided should be obtained within a year of the first visit and repeated yearly.	9	0	8	1