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Bringing best evidence to the point of care: toward a digital and trustworthy ecosystem

UiO : University of Oslo

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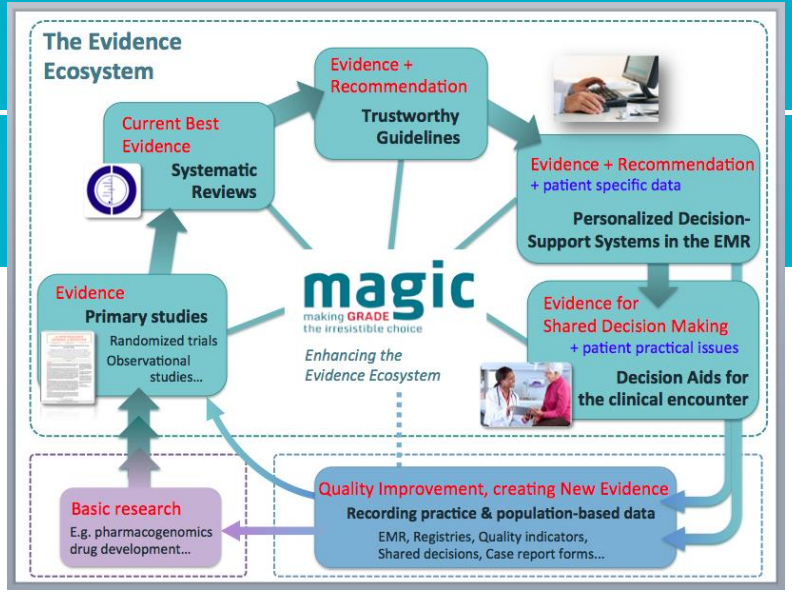


UiO : University of Oslo

Sykehuset Innlandet HF

kunnskapssenteret

Declaration of interests and who we are

Steroids for pneumonia?

- Jon, 75 yr old retired bus-driver
- 4 diseases, 6 drugs but happy
- Now hospitalized with pneumonia
- Bedridden, in bad shape, iv antibiotics

- After rounds the resident physician suggests 1 week course of steroids
- Consultant physician: You kidding me?
- **Clinical question: Steroids in pneumonia?**

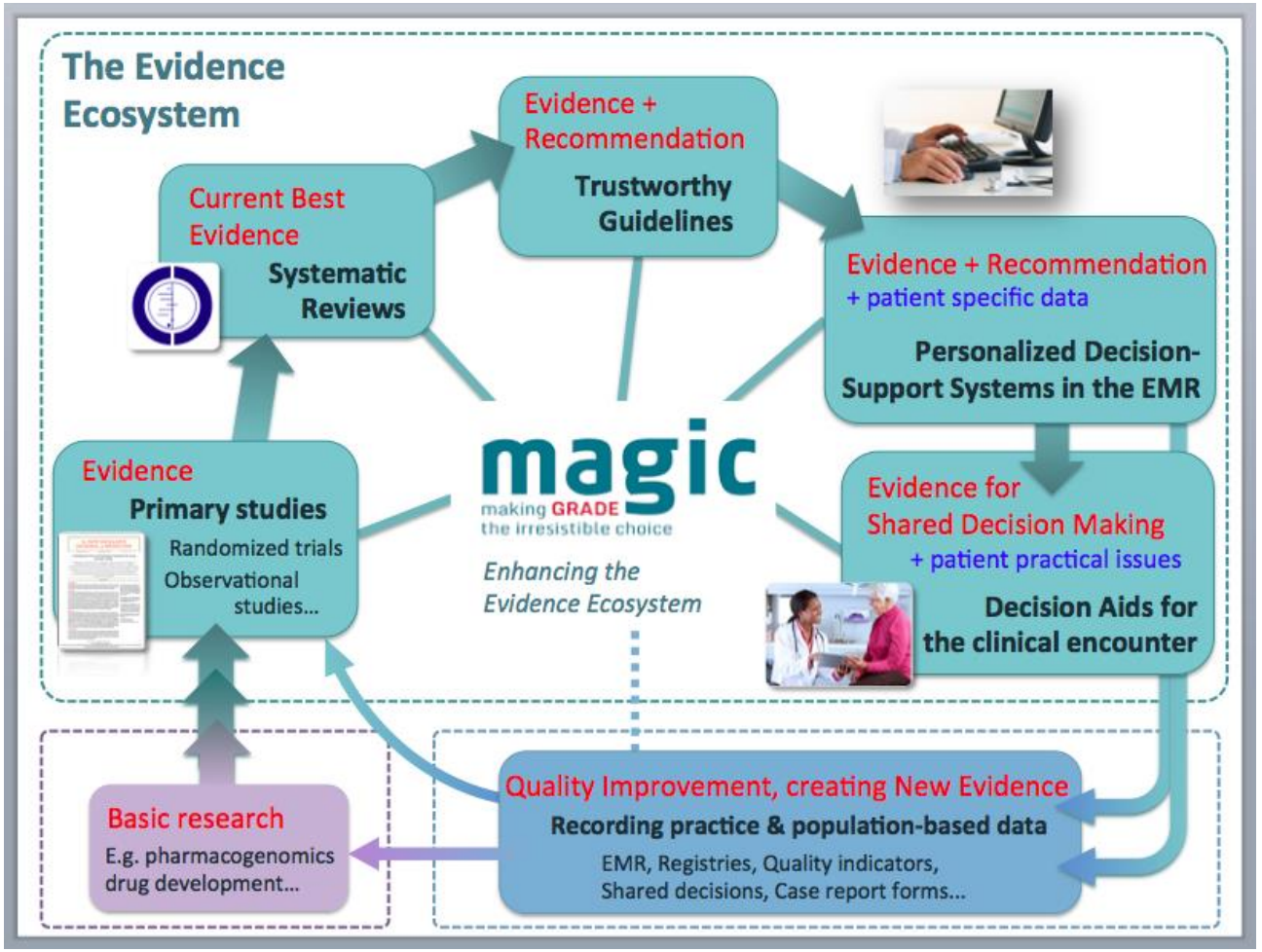
Annals of Internal Medicine REVIEW

Corticosteroid Therapy for Patients Hospitalized With Community-Acquired Pneumonia

A Systematic Review and Meta-analysis

Vision: Imagine a trustworthy and digital evidence ecosystem

for increased value and reduced waste in health care and research



Evidence into practice: Would you take steroids for pneumonia? http://isof.epistemonikos.org/#/finding/550bc6acf30d0c43083e63a0

Annals of Internal Medicine

REVIEW

Corticosteroid Therapy for Patients Hospitalized With Community-Acquired Pneumonia

A Systematic Review and Meta-analysis

Reed A.C. Siemieniuk, MD; Maureen O. Meade, MD; Pablo Alonso-Coello, MD, PhD; Matthias Briel, MD, MSc; Nathan Evaniew, MD; Manya Prasad, MBBS; Paul E. Alexander, MSc, PhD; Yutong Fei, MD, PhD; Per O. Vandvik, MD, PhD; Mark Loeb, MD, MSc; and Gordon H. Guyatt, MD, MSc

Background: Community-acquired pneumonia (CAP) is common and often severe.

Purpose: To examine the effect of adjunctive corticosteroid therapy on mortality, morbidity, and duration of hospitalization in patients with CAP.

Data Sources: MEDLINE, EMBASE, and the Cochrane Central Register of Controlled Trials through 24 May 2015.

Study Selection: Randomized trials of systemic corticosteroids in hospitalized adults with CAP.

Data Extraction: Two reviewers independently extracted study data and assessed risk of bias. Quality of evidence was assessed with the Grading of Recommendations Assessment, Development and Evaluation system by consensus among the authors.

Data Synthesis: The median age was typically in the 60s, and approximately 60% of patients were male. Adjunctive corticosteroids were associated with possible reductions in all-cause mortality (12 trials; 1974 patients; risk ratio [RR], 0.67 [95% CI, 0.45 to 1.01]; risk difference [RD], 2.8%; moderate certainty), need for mechanical ventilation (5 trials; 1060 patients; RR, 0.45 [CI, 0.26 to 0.79]; RD, 5.0%; moderate certainty), and the acute respiratory distress syndrome (4 trials; 945 patients; RR, 0.24 [CI, 0.10 to 0.56]; RD, 6.2%; moderate certainty). They also decreased time to clinical stability (5 trials; 1180 patients; mean difference, −1.22 days [CI, −2.08 to −0.35 days]; high certainty) and duration of hospitalization (6 trials; 1499 patients; mean difference, −1.00 day [CI, −1.79 to −0.21 days]; high certainty). Adjunctive corticosteroids increased frequency of hyperglycemia requiring treatment (6 trials; 1534 patients; RR, 1.49 [CI, 1.01 to 2.19]; RD, 3.5%; high certainty) but did not increase frequency of gastrointestinal hemorrhage.

Limitations: There were few events and trials for many outcomes. Trials often excluded patients at high risk for adverse events.

Conclusion: For hospitalized adults with CAP, systemic corticosteroid therapy may reduce mortality by approximately 3%, need for mechanical ventilation by approximately 5%, and hospital stay by approximately 1 day.

Primary Funding Source: None.

Ann Intern Med. doi:10.7326/M15-0715 www.annals.org

For author affiliations, see end of text.

This article was published online first at www.annals.org on 11 August 2015.

Lower respiratory infections are the second most common cause of life-years lost globally (1). In developed countries, hospitalization for community-acquired pneumonia (CAP) is common, is often associated with acute respiratory distress syndrome (ARDS) requiring mechanical ventilation (2), and is associated with appreciable mortality (3). Hospitalizations for CAP cost more than €10 billion annually in Europe (4) and more than $10 billion annually in the United States (3).

Pneumonia occurs when components of the innate immune system fail to clear a pathogen from the lower respiratory tract (5). Although local and cytokine-mediated systematic inflammatory responses may help clear bacterial pathogens, they may also cause harm. Local inflammation exacerbates pulmonary dysfunction by impairing alveolar gas exchange; severe systemic inflammation contributes to sepsis and end-organ dysfunction (6). Pneumonia is the most common cause of ARDS (2, 7), an often fatal complication characterized by a dysregulated immune response (8, 9).

Systemic adjunctive corticosteroid therapy may attenuate the inflammatory response (10, 11) and, by doing so, reduce the frequency of ARDS, length of illness and hospital stay, and possibly even mortality. However, previous systematic reviews of randomized clinical trials have failed to establish a conclusive benefit (12, 13), and current clinical practice guidelines do not recommend systemic corticosteroid therapy for CAP (14, 15).

In light of recently published randomized trials (16, 17), we performed a systematic review and meta-analysis evaluating the effect of adjunctive corticosteroid therapy for patients hospitalized with CAP.

METHODS

Data Sources and Searches

A previous Cochrane review with similar inclusion criteria identified studies up to December 2010 (13). Using the Medical Subject Headings terms "pneumonia" and "corticosteroid", we replicated the search strategy of that review (13) for MEDLINE, EMBASE, and the Cochrane Central Register of Controlled Trials (13) from 1 January 2010 to 24 May 2015. We manually

See also:

Editorial comment 1

Web-Only
CME quiz

Corticosteroids for community-acquired pneumonia

March 2015

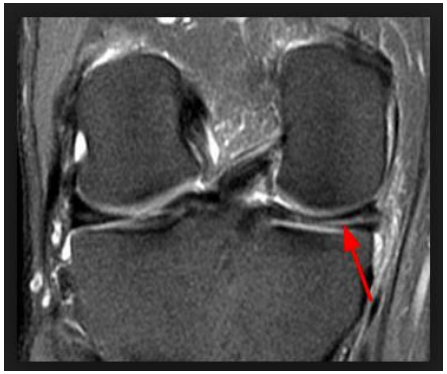
Table | Bottom line

Plain language statements ON | Absolute effect ON | Relative effect ON | Visual overview OFF

Outcomes	Plain language statements	Absolute Effect: Without Corticosteroids	Absolute Effect: With Corticosteroids	Relative effect (95% CI) Nº of participants & studies	Certainty of the evidence GRADE
All-cause mortality Follow-up: In-hospital	*Corticosteroids are likely to result in a small reduction in the risk of dying.*	85 per 1000	57 per 1000	RR 0.67 (0.45 to 1.01) Based on data from 1974 patients in 12 studies	⨁⨁⨁◯ Moderate
		Difference: 28 less per 1000 patients (95% CI: 47 less to 1 more per 1000 patients)			
Need of mechanical ventilation Follow-up: In-hospital		50 less per 1000			⨁⨁⨁◯ Moderate
Admission to intensive care unit Follow-up: 30 days		42 less per 1000			⨁⨁⨁◯ Moderate
Acute respiratory distress syndrome Follow-up: 30 days		50 less per 1000			⨁⨁⨁◯ Moderate
Duration of hospitalization. Follow-up: In-hospital		Reduced by 1 day			⨁⨁⨁⨁ High
Time to clinical stability. Follow-up: In-hospital		Reduced by 1 day			⨁⨁⨁⨁ High
Readmission to hospital Follow-up: 30 days		Likely no difference			⨁⨁⨁◯ Moderate
Hyperglycemia Follow-up: 30 days		35 more per 1000			⨁⨁⨁⨁ High
Gastrointestinal hemorrhage Follow-up: In-hospital		Likely no difference			⨁⨁⨁◯ Moderate
Severe neuropsychiatric complications Follow-up: 30 days		11 more per 1000			⨁⨁⨁◯ Moderate

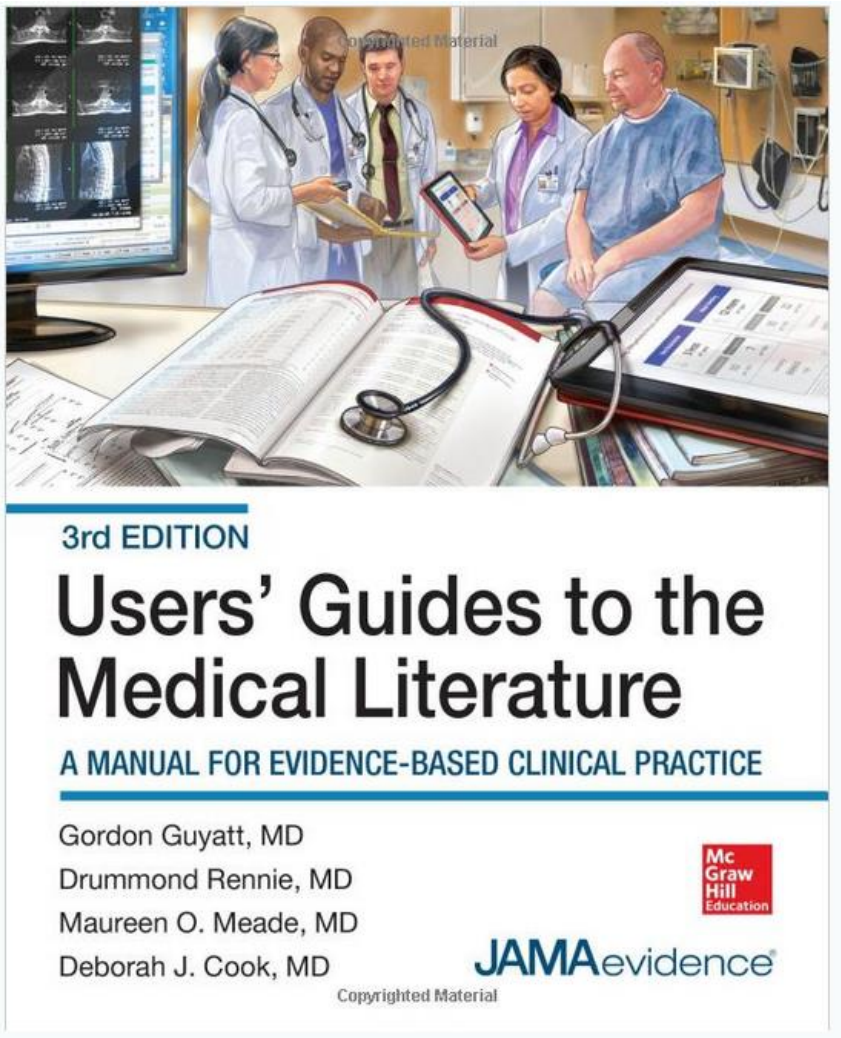
Some want more, some want less

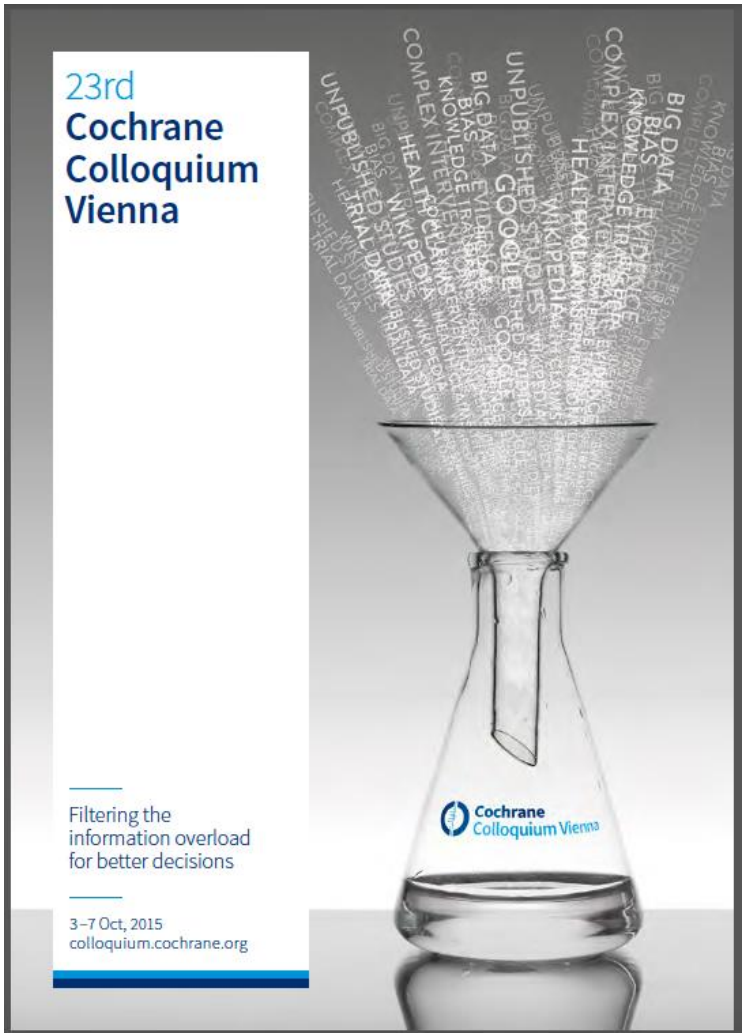
- Anna, 53 yr old school teacher
- Painful knee for 3 months
- Can not teach or do gymnastics
- Insisted on MRI: meniscal tears
- Her experienced GP is reluctant, suggests physiotherapy..
- Anna clearly wants surgery



- **Clinical question:** Arthroscopic surgery for meniscal tears?

Evidence-based medicine: Great advances





Meniscectomies in Norway: How far have we come?

Helseatlas.no

Helseatlas.no er et verktøy for å sammenlikne forbruket av helsetjenester i forskjellige geografiske områder.

Atlaset fremstiller forbruket av helsetjenester befolkningen i et geografisk område har, uavhengig av hvilket sted pasientene behandles.

Denne piloten analyserer den norske befolkningens forbruk av 12 forskjellige typer dagkirurgiske inngrep i perioden 2011-2013. Atlaset består av et interaktivt Norgeskart med tilhørende faktaark for hvert enkelt inngrep. I tillegg er det en rapport som redegjør for metode og med mer inngående beskrivelse av hver tilstand og inngrep.

Videooverføring fra lanseringen av Helseatlas i Tromsø 13.januar (krever programvaren Silverligth)

Publisert: 06.02.2015 kl. 14:22 | Endret: 06.02.2015 kl. 14:22

Tilbake Til toppen Skriv ut

Del denne artikkelen:

Atlas

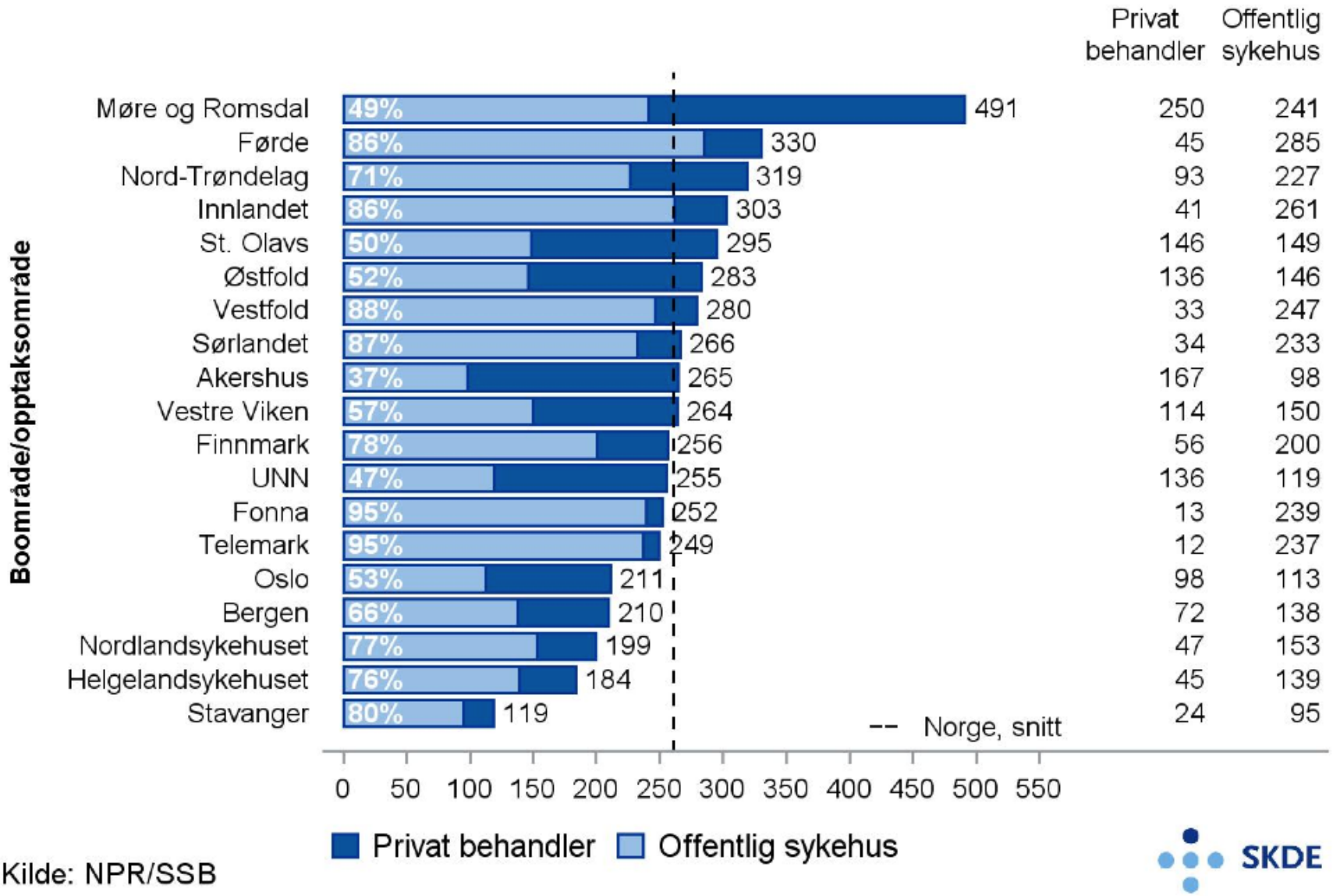
Rapport (pdf)

Inngrep

Boområder

Datagrunnlag (excel)

Om bruk av kart



Kilde: NPR/SSB

SKDE

Meniskoperasjon, kjønns- og aldersjusterte rater pr. 100.000 innbygger pr. boområde, fordelt på offentlig og privat behandler, gj.snitt for perioden 2011-2013

DN Dagens Næringsliv

Oslo Børs: 16:30
Indeks: 610,76

Director of regional hospital trust:

”Almost impossible to know what is the right thing to do”

Finding trustworthy answers to clinical questions

Surgery for degenerative meniscal tears?

FOCUSED QUESTIONS

SEARCH FOR RESEARCH EVIDENCE

CRITICAL APPRAISAL

INTEGRATE CLINICAL EXPERTISE AND PATIENT PREFERENCES

IMPLEMENT

AUDIT

Finding trustworthy answers to clinical questions

Surgery for degenerative meniscal tears?

FOCUSED QUESTIONS

Search for recommendations in evidence-based guidelines

Can you trust and use those recommendations?

Apply the recommendations on individual patients

AUDIT

IMPLEMENT

How good are we at answering our questions?

Original Investigation

Clinical Questions Raised by Clinicians at the Point of Care
A Systematic Review

Guilherme Del Fiol, MD, PhD; T. Elizabeth Workman, PhD, MLIS; Paul N. Gorman, MD

IMPORTANCE In making decisions about patient care, clinicians raise questions and are unable to pursue or find answers to most of them. Unanswered questions may lead to suboptimal patient care decisions.

OBJECTIVE To systematically review studies that examined the questions clinicians raise in the context of patient care decision making.

DATA SOURCES MEDLINE (from 1966), CINAHL (from 1982), and Scopus (from 1947), all through May 26, 2011.

STUDY SELECTION Studies that examined questions raised and observed by clinicians (physicians, medical residents, physician assistants, nurse practitioners, nurses, dentists, and care managers) in the context of patient care were independently screened and abstracted by 2 investigators. Of 21 710 citations, 72 met the selection criteria.

DATA EXTRACTION AND SYNTHESIS Question frequency was estimated by pooling data from studies with similar methods.

Invited Commentary

How good are we at answering our questions?

Original Investigation

Clinical Questions Raised by Clinicians at the Point of Care
A Systematic Review

Guilherme Del Fiol, MD, PhD; T. Elizabeth Workman, PhD, MLIS; Paul N. Gorman, MD

RESULTS In 11 studies, 7012 questions were elicited through short interviews with clinicians after each patient visit. The mean frequency of questions raised was 0.57 (95% CI, 0.38-0.77) per patient seen, and clinicians pursued 51% (36%-66%) of questions and found answers to 78% (67%-88%) of those they pursued. Overall, 34% of questions concerned drug treatment, and 24% concerned potential causes of a symptom, physical finding, or diagnostic test finding. Clinicians' lack of time and doubt that a useful answer exists were the main barriers to information seeking.

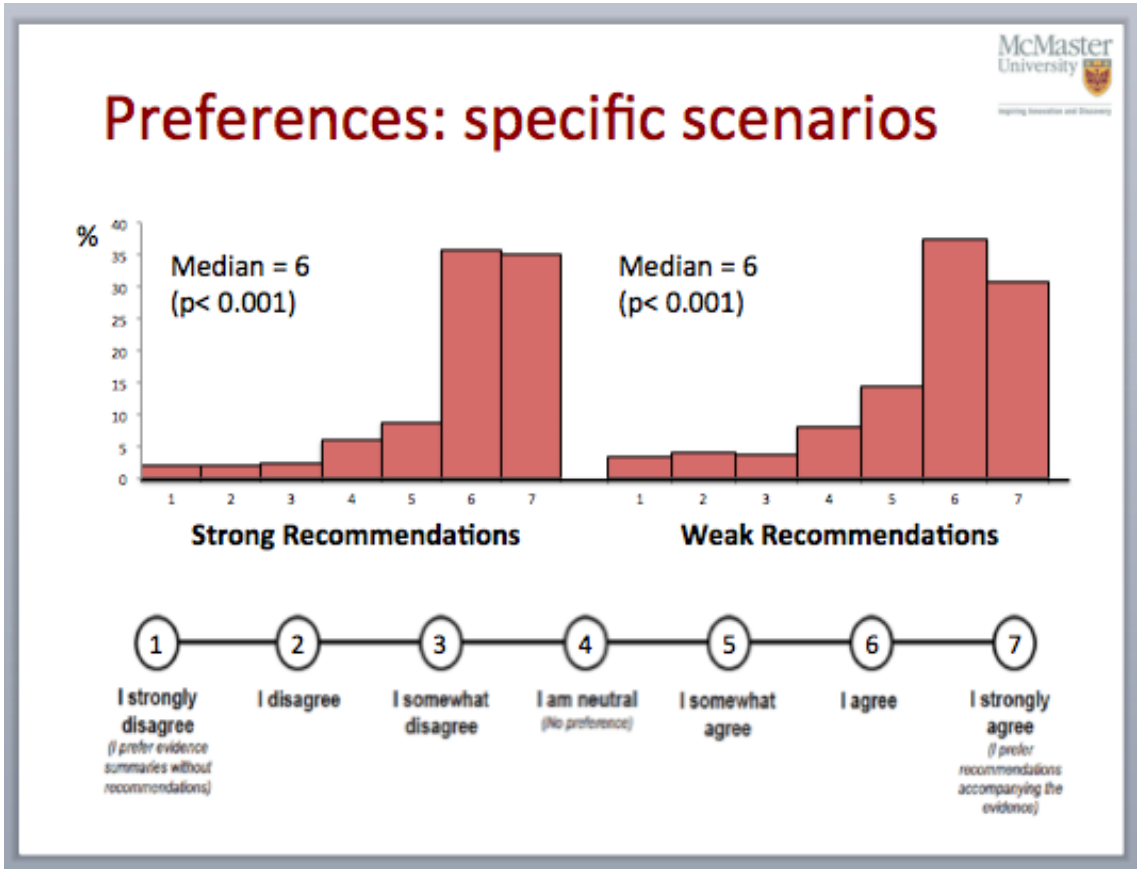
CONCLUSIONS AND RELEVANCE Clinicians frequently raise questions about patient care in their practice. Although they are effective at finding answers to questions they pursue, roughly half of the questions are never pursued. This picture has been fairly stable over time despite the broad availability of online evidence resources that can answer these questions. Technology-based solutions should enable clinicians to track their questions and provide just-in-time access to high-quality evidence in the context of patient care decision making. Opportunities for improvement include the recent adoption of electronic health record systems and maintenance of certification requirements.

studies with similar methods.

Invited Commentary

Do clinicians want recommendations? YES!

- RCT comparing evidence summaries +/- recommendations in context of low quality evidence
- 496 practicing physicians in 10 countries



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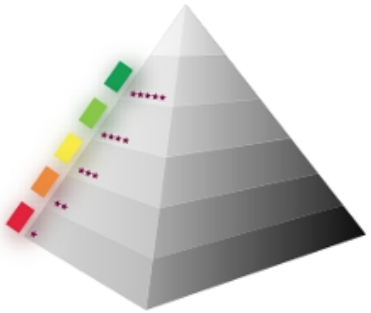
Utvalgte nye studier

Historikk

degenerative meniscal tears surgery **Søk**

Current PLUS Database: Lege

Avansert søk



6S model explained
Criteria for articles in PLUS

Oppslagsverk ★★★★★
UpToDate
Best Practice

Oppsummerte oversikter ★★★★★
ACP Journal Club (via PLUS)
DARE

Systematiske oversikter ★★★★★
PLUS Syntheses

Oppsummerte enkeltstudier ★★★★★
ACP Journal Club (via PLUS)

Enkeltstudier ★★★★★
PLUS Studies

Non-Appraised ★★★★★
PubMed Clinical Queries
PubMed

Oppslagsverk ★★★★★

UpToDate

Meniscal injury of the knee

Overview of surgical therapy of knee and hip osteoarthritis

More Results...

Best Practice

Meniscal tear

Anal fissure

More Results...

Systematiske oversikter ★★★★★

PLUS Syntheses

Arthroscopic surgery for degenerative tears of the meniscus: a systematic review and meta-analysis.*(Systematic Review)*

Enkeltstudier (pre-appraised by these criteria) ★★★★★

PLUS Studies

Efficacy of magnetic resonance imaging evaluation for meniscal tear in acute anterior cruciate ligament injuries. *(Original Study)*

Arthroscopic partial meniscectomy versus sham surgery for a degenerative meniscal tear.*(Original Study)*

Below this bar you must do your own critical appraisal. (and can use these criteria if you wish)

PubMed Clinical Queries

These results are yielded from your search term combined with Search Filters which are a modified version of our PubMed Clinical Queries.

Systematic Reviews

Degenerative meniscus: Pathogenesis, diagnosis, and treatment options.

MR imaging characteristics and clinical symptoms related to displaced **meniscal** flap **tears**.

More Results...

Therapy

Arthroscopic **surgery** for **degenerative tears** of the meniscus: a systematic review and meta-analysis.

Arthroscopic debridement compared to intra-articular steroids in treating **degenerative** medial **meniscal tears**.

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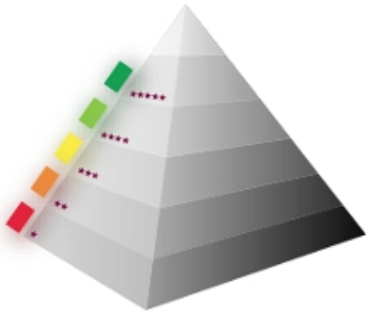
degenerative meniscal tears surgery

Søk

Avansert søk

Current PLUS Database: Lege



6S model explained
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- Oppslagsverk ★★★★★
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  - ACP Journal Club (via PLUS)
  - DARE
- Systematiske oversikter ★★★★★
  - PLUS Syntheses
- Oppsummerte enkeltstudier ★★★★★
  - ACP Journal Club (via PLUS)
- Enkeltstudier ★★★★★
  - PLUS Studies
- Non-Appraised ★★★★★
  - PubMed Clinical Queries
  - PubMed

Oppslagsverk ★★★★★

No trustworthy guidelines

in Norway

More Results...

Systematiske oversikter ★★★★★

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Arthroscopic **surgery** for **degenerative tears** of the meniscus: a systematic review and meta-analysis.

Arthroscopic debridement compared to intra-articular steroids in treating **degenerative** medial **meniscal tears**.

ORIGINAL ARTICLE

Arthroscopic Partial Meniscectomy versus Sham Surgery for a Degenerative Meniscal Tear

Raine Sihvonen, M.D., Mika Paavola, M.D., Ph.D., Antti Malmivaara, M.D., Ph.D., Ari Itälä, M.D., Ph.D., Antti Joukainen, M.D., Ph.D., Heikki Nurmi, M.D., Juha Kalske, M.D., and Teppo L.N. Järvinen, M.D., Ph.D., for the Finnish Degenerative Meniscal Lesion Study (FIDELITY) Group

ABSTRACT

BACKGROUND

Arthroscopic partial meniscectomy is one of the most common orthopedic procedures, yet rigorous evidence of its efficacy is lacking.

METHODS

We conducted a multicenter, randomized, double-blind, sham-controlled trial in 146 patients 35 to 65 years of age who had knee symptoms consistent with a degenerative medial meniscus tear and no knee osteoarthritis. Patients were randomly assigned to arthroscopic partial meniscectomy or sham surgery. The primary outcomes were changes in the Lysholm and Western Ontario Meniscal Evaluation Tool (WOMET) scores (each ranging from 0 to 100, with lower scores indicating more severe symptoms) and in knee pain after exercise (rated on a scale from 0 to 10, with 0 denoting no pain) at 12 months after the procedure.

RESULTS

In the intention-to-treat analysis, there were no significant between-group differences in the change from baseline to 12 months in any primary outcome. The mean changes (improvements) in the primary outcome measures were as follows: Lysholm score, 21.7 points in the partial-meniscectomy group as compared with 23.3 points in the sham-surgery group (between-group difference, −1.6 points; 95% confidence interval [CI], −7.2 to 4.0); WOMET score, 24.6 and 27.1 points, respectively (between-group difference, −2.5 points; 95% CI, −9.2 to 4.1); and score for knee pain after exercise, 3.1 and 3.3 points, respectively (between-group difference, −0.1; 95% CI, −0.9 to 0.7). There were no significant differences between groups in the number of patients who required subsequent knee surgery (two in the partial-meniscectomy group and five in the sham-surgery group) or serious adverse events (one and zero, respectively).

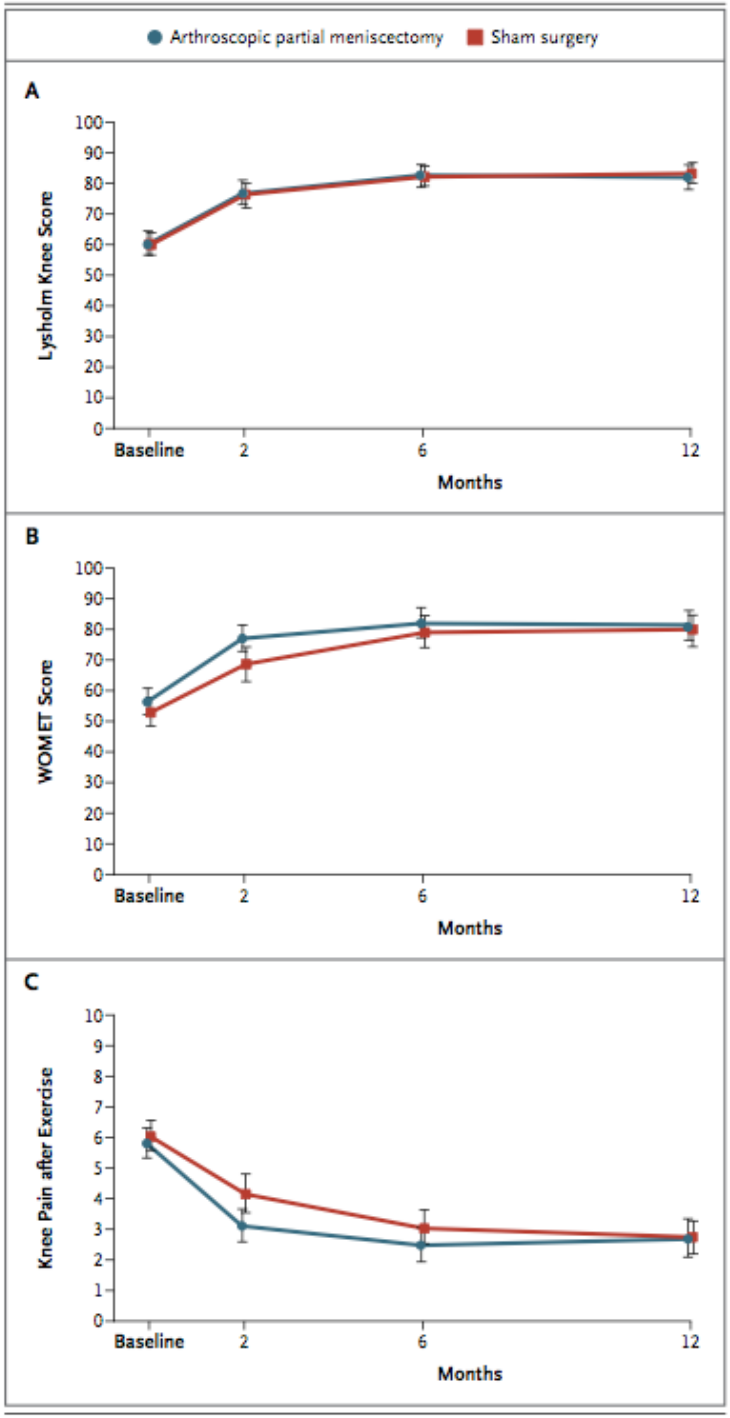
CONCLUSIONS

In this trial involving patients without knee osteoarthritis but with symptoms of a degenerative medial meniscus tear, the outcomes after arthroscopic partial meniscectomy were no better than those after a sham surgical procedure. (Funded by the Sigrid Juselius Foundation and others; ClinicalTrials.gov number, NCT00549172.)

From the Department of Orthopedics and Traumatology, Hatanpää City Hospital, Tampere (R.S.), the Department of Orthopedics and Traumatology, Helsinki University Central Hospital and University of Helsinki (M.P., J.K., T.L.N.J.), and the National Institute for Health and Welfare, Center for Health and Social Economics (A.M.), Helsinki, the Department of Orthopedics and Traumatology, University of Turku, Turku (A.I.), the Department of Orthopedics, Traumatology, and Hand Surgery, Kuopio University Hospital, Kuopio (A.J.), and the Department of Orthopedics and Traumatology, Central Finland Central Hospital, Jyväskylä (H.N.) — all in Finland. Address reprint requests to Dr. Järvinen at the Department of Orthopedics and Traumatology, Helsinki University Central Hospital/Töölö Hospital, Topeliuksenkatu 5, P.O. Box 266, 00029 HUS, Helsinki, Finland, or at teppo.jarvinen@helsinki.fi.

*A list of additional members of the FIDELITY Group is provided in the Supplementary Appendix, available at NEJM.org.

N Engl J Med 2013;369:2515-24.
DOI: 10.1056/NEJMoa1305189


Arthroscopic partial meniscectomy
Sham surgery
A
Lysholm Knee Score
100
90
80
70
60
50
40
30
20
10
0
Baseline
2
6
12
Months
B
WOMET Score
100
90
80
70
60
50
40
30
20
10
0
Baseline
2
6
12
Months
C
Knee Pain after Exercise
10
9
8
7
6
5
4
3
2
1
0
Baseline
2
6
12
Months

CMAJ RESEARCH

Arthroscopic surgery for degenerative tears of the meniscus: a systematic review and meta-analysis

Moin Khan MD, Nathan Evaniew MD, Asheesh Bedi MD, Olufemi R. Ayeni MD MSc, Mohit Bhandari MD PhD

Abstract

Background: Arthroscopic surgery for degenerative meniscal tears is a commonly performed procedure, yet the role of conservative treatment for these patients is unclear. This systematic review and meta-analysis evaluates the efficacy of arthroscopic meniscal débridement in patients with knee pain in the setting of mild or no concurrent osteoarthritis of the knee in comparison with nonoperative or sham treatments.

Methods: We searched MEDLINE, Embase and the Cochrane databases for randomized controlled trials (RCTs) published from 1946 to Jan. 20, 2014. Two reviewers independently screened all titles and abstracts for eligibility. We assessed risk of bias for all included studies and pooled outcomes using a random-effects model. Outcomes (i.e., function and pain relief) were dichotomized to short-term (< 6 mo) and long-term (< 2 yr) data.

Results: Seven RCTs (n = 805 patients) were included in this review. The pooled treatment effect of arthroscopic surgery did not show a significant or minimally important difference (MID) between treatment arms for long-term functional outcomes (standardized mean difference [SMD] 0.07, 95% confidence interval [CI] –0.10 to 0.23). Short-term functional outcomes between groups were significant but did not exceed the threshold for MID (SMD 0.25, 95% CI 0.02 to 0.48). Arthroscopic surgery did not result in a significant improvement in pain scores in the short term (mean difference [MD] 0.20, 95% CI –0.67 to 0.26) or in the long term (MD –0.06, 95% CI –0.28 to 0.15). Statistical heterogeneity was low to moderate for the outcomes.

Interpretation: There is moderate evidence to suggest that there is no benefit to arthroscopic meniscal débridement for degenerative meniscal tears in comparison with nonoperative or sham treatments in middle-aged patients with mild or no concomitant osteoarthritis. A trial of nonoperative management should be the first-line treatment for such patients.

Competing interests: Mohit Bhandari declares consultancy payments from Smith & Nephew, Stryker, Amgen, Zimmer, Moximed and Bioventus, and grant support from Smith & Nephew, DePuy, Eli Lilly and Bioventus. No other competing interests were declared.

This article has been peer reviewed.

Correspondence to: Moin Khan, moinkhanmd @gmail.com

CMAJ 2014. DOI:10.1503 /cmaj.140433

Arthroscopic meniscal débridement is one of the most commonly performed procedures in orthopedic surgery. More than 700000 such procedures are performed each year in the United States, and more than 4 million are performed each year worldwide, with substantial economic and social burdens.[1–6] Many patients who undergo arthroscopic meniscal débridement have concurrent osteoarthritis, and orthopedic surgeons are often challenged to determine the true cause of patients' symptoms: the meniscal tear, osteoarthritis or a combination of both.[7]

Although 2 well-designed randomized controlled trials (RCTs)[8,9] have shown a lack of efficacy for arthroscopic surgery in patients with severe and advanced knee arthritis, many patients present with degenerative meniscal tears and mild or minimal concurrent osteoarthritis.[10] Patients with degenerative meniscal tears in the setting of mild osteoarthritis may experience functional improvement or pain relief with arthroscopic surgery,[11–14] but the role of conservative treatment is unclear.[15–17] Arthroscopic surgery involves the potential for complications, which must be weighed against the prognosis for relief from presenting symptoms.[6,18]

The objective of this systematic review and meta-analysis was to evaluate the efficacy of arthroscopic meniscal débridement in comparison with nonoperative or sham treatments in patients with degenerative meniscal tears and knee pain with regard to function and pain relief in the short term (< 6 mo) and long term (< 2 yr).

Methods

We conducted this study according to the methods of the *Cochrane Handbook for Systematic Reviews of Interventions*.[19] The findings are reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement.[20]

Study	Surgical treatment Mean ± SD	Surgical treatment No. patients or knees	Conservative treatment Mean ± SD	Conservative treatment No. patients or knees	SMD (95% CI)
Herrlin et al.[37]	80 ± 27.3	47	79.2 ± 21.3	43	0.03 (–0.38 to 0.45)
Katz et al.[39]	78.9 ± 18.1	161	74.8 ± 18.6	169	0.22 (0.01 to 0.44)
Østerås et al.[42]	59.1 ± 23.1	8	60.3 ± 25.9	9	–0.05 (–1.00 to 0.91)
Sihvonen et al.[40]	82 ± 20.9	70	79 ± 20.5	76	0.14 (–0.18 to 0.47)
Vermesan et al.[43]	42.8 ± 3.1	60	39.9 ± 3.9	60	0.82 (0.44 to 1.19)
Yim et al.[41]	84.1 ± 17.7	50	82.3 ± 17	52	0.10 (–0.29 to 0.49)
Overall		396		409	0.25 (0.02 to 0.48)
Heterogeneity: I^2 = 56%					

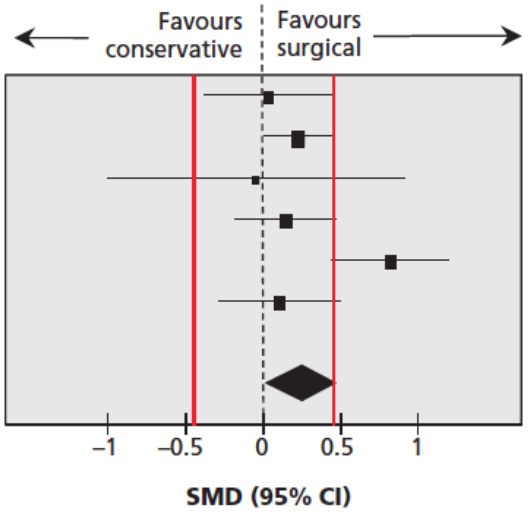


Figure 3: Pooled short-term functional outcomes of conservative and surgical treatment. Red lines show a zone of clinical equivalence based on a minimal important difference of 10 on the Knee Injury and Osteoarthritis Outcome Score.[37,39,40–43]
Note: CI = confidence interval, SD = standard deviation, SMD = standardized mean difference.

Study	Surgical treatment Mean ± SD	Surgical treatment No. patients or knees	Conservative treatment Mean ± SD	Conservative treatment No. patients or knees	SMD (95% CI)
Herrlin et al.[38]	93.5 ± 20	47	90 ± 11.9	49	0.21 (–0.19 to 0.61)
Katz et al.[39]	80.9 ± 17.8	161	80.7 ± 17.9	169	0.01 (–0.20 to 0.23)
Sihvonen et al.[40]	82.2 ± 16	70	83.4 ± 13.8	76	–0.08 (–0.40 to 0.24)
Vermesan et al.[43]	36.1 ± 3.6	60	34.7 ± 3.8	60	0.38 (0.01 to 0.74)
Yim et al.[41]	83.2 ± 12	50	84.3 ± 10.5	52	–0.10 (–0.49 to 0.29)
Overall		388		406	0.07 (–0.10 to 0.23)
Heterogeneity: I^2 = 20%					

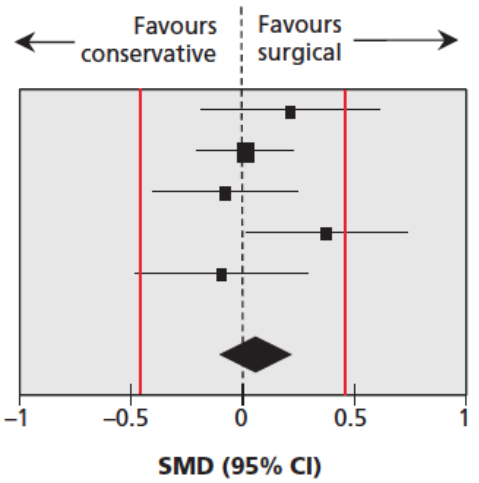


Figure 4: Pooled long-term functional outcomes of conservative and surgical treatment. Red lines show a zone of clinical equivalence based on a minimal important difference of 10 on the Knee Injury and Osteoarthritis Outcome Score.[38–41,43]
Note: CI = confidence interval, SD = standard deviation, SMD = standardized mean difference.

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

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Accepted: 22 April 2015

ABSTRACT

OBJECTIVE
To determine benefits and harms of arthroscopic knee surgery involving partial meniscectomy, debridement, or both for middle aged or older patients with knee pain and degenerative knee disease.

DESIGN
Systematic review and meta-analysis.

MAIN OUTCOME MEASURES
Pain and physical function.

DATA SOURCES
Systematic searches for benefits and harms were carried out in Medline, Embase, CINAHL, Web of Science, and the Cochrane Central Register of Controlled Trials (CENTRAL) up to August 2014. Only studies published in 2000 or later were included for harms.

ELIGIBILITY CRITERIA FOR SELECTING STUDIES
Randomised controlled trials assessing benefit of arthroscopic surgery involving partial meniscectomy, debridement, or both for patients with or without radiographic signs of osteoarthritis were included. For harms, cohort studies, register based studies, and case series were also allowed.

RESULTS
The search identified nine trials assessing the benefits of knee arthroscopic surgery in middle aged and older patients with knee pain and degenerative knee disease. The main analysis, combining the primary endpoints of the individual trials from three to 24 months postoperatively, showed a small difference in favour of interventions including arthroscopic surgery compared with control treatments for pain (effect size 0.14, 95% confidence interval 0.03 to 0.26). This difference corresponds to a benefit of 2.4 (95% confidence interval 0.4 to 4.3) mm on a 0-100 mm visual analogue scale. When analysed over time of follow-up, interventions including arthroscopy showed a small benefit of 3-5 mm for pain at three and six months but not later up to 24 months. No significant benefit on physical function was found (effect size 0.09, −0.05 to 0.24). Nine studies reporting on harms were identified. Harms included symptomatic deep venous thrombosis (4.13 (95% confidence interval 1.78 to 9.60) events per 1000 procedures), pulmonary embolism, infection, and death.

CONCLUSIONS
The small inconsequential benefit seen from interventions that include arthroscopy for the degenerative knee is limited in time and absent at one to two years after surgery. Knee arthroscopy is associated with harms. Taken together, these findings do not support the practise of arthroscopic surgery for middle aged or older patients with knee pain with or without signs of osteoarthritis.

SYSTEMATIC REVIEW REGISTRATION
PROSPERO CRD42014009145.

WHAT IS ALREADY KNOWN ON THIS TOPIC

Arthroscopic knee surgery is frequently and increasingly used to treat middle aged and older patients with persistent knee pain

All but one published randomised trials have shown no added benefit for arthroscopic surgery over that of the control treatment, but many specialists are convinced of the benefits of the surgical intervention

WHAT THIS STUDY ADDS

Interventions that include arthroscopy are associated with a small benefit and with harms; the small benefit is inconsequential and of short duration

The benefit is markedly smaller than that seen from exercise therapy as treatment for knee osteoarthritis

These findings do not support the practice of arthroscopic surgery as treatment for middle aged or older patients with knee pain with or without signs of osteoarthritis

Introduction

Arthroscopic knee surgery with meniscus resection is common for middle aged or older people with persistent knee pain.[1-3] The knees of these patients often show "degenerative" lesions of cartilage, meniscus, and other tissues, suggestive of osteoarthritis. However, population based studies using magnetic resonance imaging show that incidental findings of such lesions are also very common among people without knee symptoms and among those without plain radiographic signs of osteoarthritis, suggesting that the clinical significance of such findings is unclear.[4-6] All but one of the nine randomised clinical trials to date of arthroscopic surgery in middle aged or older people with persistent knee pain failed to show an added benefit of interventions including arthroscopic surgery over a variety of control treatments.[7-15] Uncertainty thus exists about the benefit of arthroscopic surgery including meniscus resection for these patients. However, many specialists are convinced of the benefits of the procedure from their own experience,[16-19] and several recent reports show an increase, or no decrease, in the incidence of arthroscopic knee surgery with meniscus resection during the past decade.[3 20-23] The arthroscopic procedures discussed here are reported to be associated with adverse events, including deep venous thrombosis, infections, cardiovascular events, pulmonary embolism, and death.[24-26]

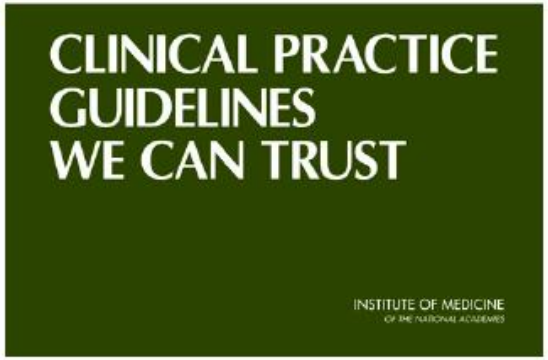
The balance of benefits and harms weighs importantly in the choice of treatment. To inform the choice of treatment for these patients, we did a comprehensive, up to date systematic review and meta-analysis of the benefits and harms of arthroscopic surgery

We need to create trustworthy guidelines according to new definition and standards

New definition

"Clinical Practice Guidelines are statements that include recommendations intended to optimize patient care. They are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options "

New standards



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New standards

Annals of Internal Medicine | CLINICAL GUIDELINE

Guidelines International Network: Toward International Standards for Clinical Practice Guidelines

Amir Qaseem, MD, PhD, MHA; Frode Forland, MD, DPH; Fergus Macbeth, MD; Günter Ollenschläger, MD, PharmD, PhD; Sue Phillips, PhD; and Philip van der Wees, PhD, PT, for the Board of Trustees of the Guidelines International Network*

Guideline development processes vary substantially, and many guidelines do not meet basic quality criteria. Standards for guideline development can help organizations ensure that recommendations are evidence-based and can help users identify high-quality guidelines. Such organizations as the U.S. Institute of Medicine and the United Kingdom's National Institute for Health and Clinical Excellence have developed recommendations to define trustworthy guidelines within their locales. Many groups charged with guideline development find the lengthy list of standards developed by such organizations to be aspirational but infeasible to follow in entirety.

Founded in 2002, the Guidelines International Network (G-I-N) is a network of guideline developers that includes 93 organizations and 89 individual members representing 46 countries. The G-I-N board of trustees recognized the importance of guideline development processes that are both rigorous and feasible even for modestly funded groups to implement and initiated an effort toward consensus about minimum standards for high-quality guidelines. In contrast to other existing standards for guideline development at national or local levels, the key components proposed by G-I-N will represent the consensus of an international, multidisciplinary group of active guideline developers.

This article presents G-I-N's proposed set of key components for guideline development. These key components address panel composition, decision-making process, conflicts of interest, guideline objective, development methods, evidence review, basis of recommendations, ratings of evidence and recommendations, guideline review, updating processes, and funding. It is hoped that this article promotes discussion and eventual agreement on a set of international standards for guideline development.

Ann Intern Med. 2012;156:525-531. www.annals.org

For author affiliations, see end of text.

* For a list of members of the board of trustees of the Guidelines International Network, see the Appendix (available at www.annals.org).

The health care profession relies heavily on the translation of evidence into clinical practice guidelines (1). The U.S. Institute of Medicine (IOM) defines clinical practice guidelines as "statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options" (2). Over recent decades, the number of guidelines developed by government and private organizations worldwide has increased exponentially. Clinicians, patients, and other stakeholders struggle with numerous and sometimes contradictory guidelines of variable quality (3).

Development of guidelines within coordinated programs can facilitate meeting quality standards by enabling the efficient sharing of resources and expertise (4). International collaboration offers additional opportunities to enhance guideline development (4). Standards for guideline development can help organizations assure that recommendations are evidence-based and can help users identify high-quality guidelines. Although the Appraisal of Guidelines for Research and Evaluation (AGREE) instrument does not explicitly set standards for guideline development, it is a valuable tool to evaluate the process of practice guideline development (4).

Several groups, such as the IOM (2), World Health Organization (5), National Institute for Health and Clinical Excellence (6), Scottish Intercollegiate Guidelines Network (7), National Health and Medical Research Council (8), many medical societies (9–15), and others (16–24), have proposed standards for guideline developers. Of note, the IOM's recent reports identifying criteria for trustworthy clinical practice guidelines and systematic reviews (2, 25) have received both praise and criticism. Much of the concern about the IOM's criteria centers on the feasibility of implementing the long list of criteria and the applicability to diverse settings (26).

Founded in 2002, the Guidelines International Network (G-I-N) (www.g-i-n.net) is a network of guideline developers composed of 93 organizations and 89 individual members representing 46 countries (as of January 2012) (27). Its online library currently comprises more than 7400 documents, including 3636 guidelines, with a wide range of variation in quality. The Guidelines International Network understands the critical need to minimize the quality differences among guidelines and to promote the development of trustworthy guidelines. In response to calls for international standards to help develop and appraise clinical guidelines (19, 28–30), the G-I-N board of trustees reviewed the current literature and used a consensus process to propose a set of key components for guideline development. The intent is to initiate global discussion and consensus about minimal standards for guideline development.

METHODS

The G-I-N board of trustees includes clinicians and guideline developers with specific skills in evidence-based

See also:

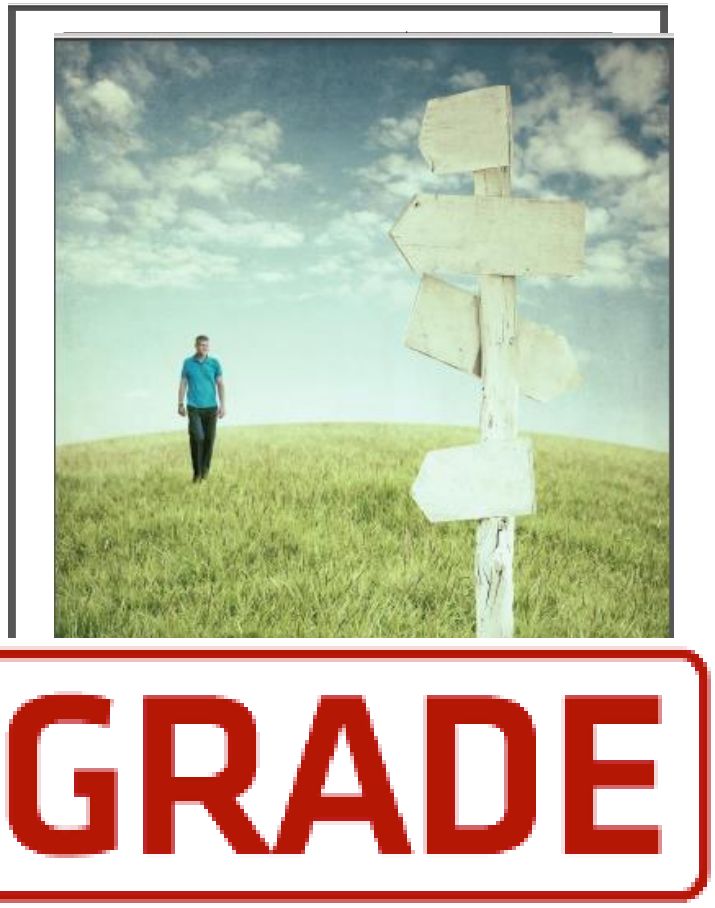
Web-Only
Appendix
Conversion of graphics into slides

We need to create trustworthy guidelines according to new definition and standards

New definition

"Clinical Practice Guidelines are statements that include recommendations intended to optimize patient care. They are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options "

New standards



Formulate question

Select outcomes

Rate importance

Outcomes across studies

Create evidence profile with GRADEpro

Rate quality of evidence for each outcome

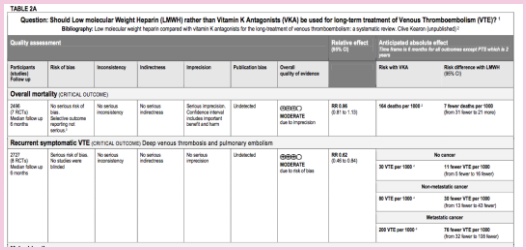
P
I
C
O

Outcome Critica

Outcome Critica

Outcome Important

Outcome Not important



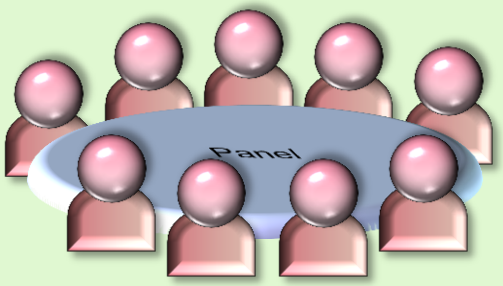
High
Moderate
Low
Very low

Summary of findings & estimate of effect for each outcome

Systematic review

Guideline development

Formulate recommendations:
•For or against (direction)
•Strong or weak/conditional (strength)



Grade overall quality of evidence across outcomes

By considering:
❑Quality of evidence
❑Balance benefits/harms
❑Values and preferences

Revise if necessary by considering:
❑Resource use (cost)

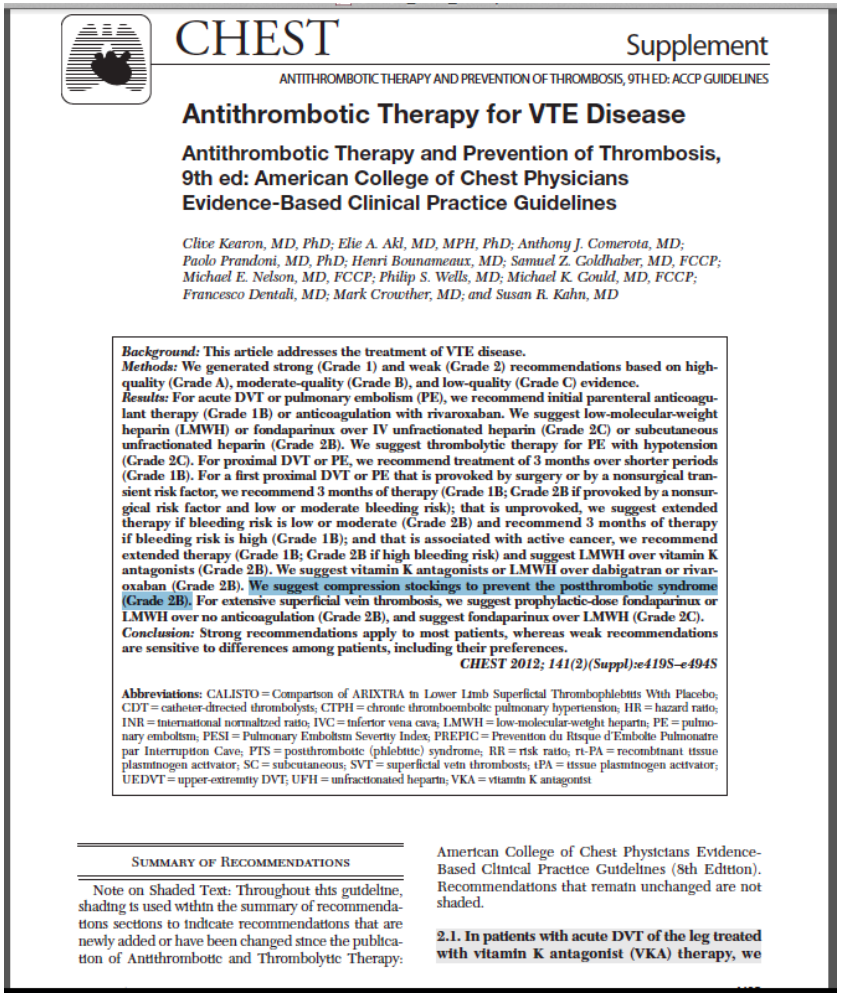
- "We recommend using…"
- "We suggest using…"
- "We recommend against using…"
- "We suggest against using…"

Illustration from Holger Schunemann and Yngve Falck Ytter

Imagine you found a trustworthy guideline

- **Huge duplication, lots of work**
- **Are these guidelines**
- ✓ Available, useful and understandable for clinicians?
- ✓ Suited for integration into EMRs, EBM textbooks and adaptation?
- ✓ Sufficiently up to date?
- ✓ Facilitating shared decisions?
- 2010: No available tools
- **We need**

magic
making GRADE
the irresistible choice



CHEST Supplement

ANTITHROMBOTIC THERAPY AND PREVENTION OF THROMBOSIS, 9TH ED: ACCP GUIDELINES

Antithrombotic Therapy for VTE Disease

Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines

Clive Kearon, MD, PhD; Elie A. Akl, MD, MPH, PhD; Anthony J. Comerota, MD; Paolo Prandoni, MD, PhD; Henri Bounameaux, MD; Samuel Z. Goldhaber, MD, FCCP; Michael E. Nelson, MD, FCCP; Philip S. Wells, MD; Michael K. Gould, MD, FCCP; Francesco Dentali, MD; Mark Crowther, MD; and Susan R. Kahn, MD

Background: **This article addresses the treatment of VTE disease.**
Methods: **We generated strong (Grade 1) and weak (Grade 2) recommendations based on high-quality (Grade A), moderate-quality (Grade B), and low-quality (Grade C) evidence.**
Results: **For acute DVT or pulmonary embolism (PE), we recommend initial parenteral anticoagulant therapy (Grade 1B) or anticoagulation with rivaroxaban. We suggest low-molecular-weight heparin (LMWH) or fondaparinux over IV unfractionated heparin (Grade 2C) or subcutaneous unfractionated heparin (Grade 2B). We suggest thrombolytic therapy for PE with hypotension (Grade 2C). For proximal DVT or PE, we recommend treatment of 3 months over shorter periods (Grade 1B). For a first proximal DVT or PE that is provoked by surgery or by a nonsurgical transient risk factor, we recommend 3 months of therapy (Grade 1B; Grade 2B if provoked by a nonsurgical risk factor and low or moderate bleeding risk); that is unprovoked, we suggest extended therapy if bleeding risk is low or moderate (Grade 2B) and recommend 3 months of therapy if bleeding risk is high (Grade 1B); and that is associated with active cancer, we recommend extended therapy (Grade 1B; Grade 2B if high bleeding risk) and suggest LMWH over vitamin K antagonists (Grade 2B). We suggest vitamin K antagonists or LMWH over dabigatran or rivaroxaban (Grade 2B). We suggest compression stockings to prevent the postthrombotic syndrome (Grade 2B). For extensive superficial vein thrombosis, we suggest prophylactic-dose fondaparinux or LMWH over no anticoagulation (Grade 2B), and suggest fondaparinux over LMWH (Grade 2C).**
Conclusion: **Strong recommendations apply to most patients, whereas weak recommendations are sensitive to differences among patients, including their preferences.**
CHEST 2012; 141(2)(Suppl):e419S–e494S

Abbreviations: CALISTO = Comparison of ARIXTRA in Lower Limb Superficial Thrombophlebitis With Placebo; CDT = catheter-directed thrombolysis; CTPH = chronic thromboembolic pulmonary hypertension; HR = hazard ratio; INR = international normalized ratio; IVC = inferior vena cava; LMWH = low-molecular-weight heparin; PE = pulmonary embolism; PESI = Pulmonary Embolism Severity Index; PREPIC = Prevention du Risque d'Embolie Pulmonaire par Interruption Cave; PTS = postthrombotic (phlebitic) syndrome; RR = risk ratio; rt-PA = recombinant tissue plasminogen activator; SC = subcutaneous; SVT = superficial vein thrombosis; tPA = tissue plasminogen activator; UEDVT = upper-extremity DVT; UFH = unfractionated heparin; VKA = vitamin K antagonist

SUMMARY OF RECOMMENDATIONS

Note on Shaded Text: Throughout this guideline, shading is used within the summary of recommendations sections to indicate recommendations that are newly added or have been changed since the publication of Antithrombotic and Thrombolytic Therapy: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). Recommendations that remain unchanged are not shaded.

2.1. In patients with acute DVT of the leg treated with vitamin K antagonist (VKA) therapy, we

Imagine you found a trustworthy guideline

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- **Are these guidelines**
- ✓ Available, useful and understandable for clinicians?
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- ✓ Sufficiently up to date?
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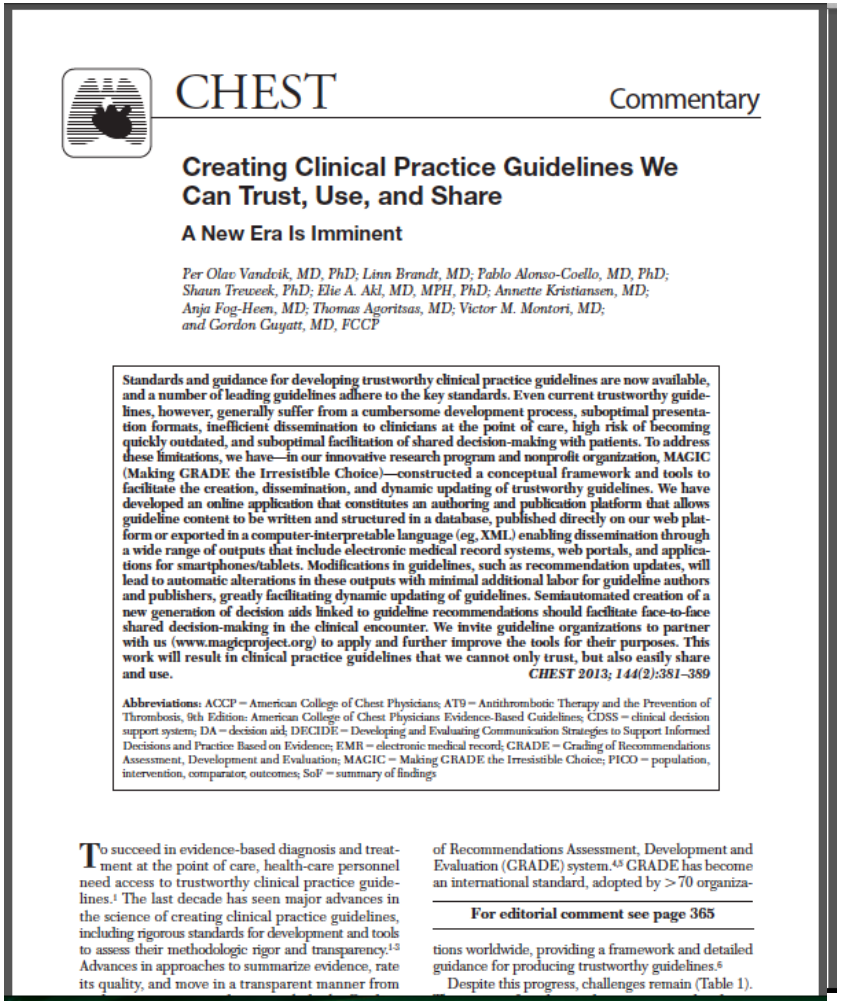


CHEST Commentary

Creating Clinical Practice Guidelines We Can Trust, Use, and Share

A New Era Is Imminent

Per Olav Vandvik, MD, PhD; Linn Brandt, MD; Pablo Alonso-Coello, MD, PhD; Shaun Treweek, PhD; Elie A. Akl, MD, MPH, PhD; Annette Kristiansen, MD; Anja Fog-Heen, MD; Thomas Agoritsas, MD; Victor M. Montori, MD; and Gordon Guyatt, MD, FCCP

Standards and guidance for developing trustworthy clinical practice guidelines are now available, and a number of leading guidelines adhere to the key standards. Even current trustworthy guidelines, however, generally suffer from a cumbersome development process, suboptimal presentation formats, inefficient dissemination to clinicians at the point of care, high risk of becoming quickly outdated, and suboptimal facilitation of shared decision-making with patients. To address these limitations, we have—in our innovative research program and nonprofit organization, MAGIC (Making GRADE the Irresistible Choice)—constructed a conceptual framework and tools to facilitate the creation, dissemination, and dynamic updating of trustworthy guidelines. We have developed an online application that constitutes an authoring and publication platform that allows guideline content to be written and structured in a database, published directly on our web platform or exported in a computer-interpretable language (eg, XML) enabling dissemination through a wide range of outputs that include electronic medical record systems, web portals, and applications for smartphones/tablets. Modifications in guidelines, such as recommendation updates, will lead to automatic alterations in these outputs with minimal additional labor for guideline authors and publishers, greatly facilitating dynamic updating of guidelines. Semiautomated creation of a new generation of decision aids linked to guideline recommendations should facilitate face-to-face shared decision-making in the clinical encounter. We invite guideline organizations to partner with us (www.magicproject.org) to apply and further improve the tools for their purposes. This work will result in clinical practice guidelines that we cannot only trust, but also easily share and use.

CHEST 2013; 144(2):381–389

Abbreviations: ACCP = American College of Chest Physicians; AT9 = Antithrombotic Therapy and the Prevention of Thrombosis, 9th Edition: American College of Chest Physicians Evidence-Based Guidelines; CDSS = clinical decision support system; DA = decision aid; DECIDE = Developing and Evaluating Communication Strategies to Support Informed Decisions and Practice Based on Evidence; EMR = electronic medical record; GRADE = Grading of Recommendations Assessment, Development and Evaluation; MAGIC = Making GRADE the Irresistible Choice; PICO = population, intervention, comparator, outcomes; SoF = summary of findings

To succeed in evidence-based diagnosis and treatment at the point of care, health-care personnel need access to trustworthy clinical practice guidelines.[1] The last decade has seen major advances in the science of creating clinical practice guidelines, including rigorous standards for development and tools to assess their methodologic rigor and transparency.[1-3] Advances in approaches to summarize evidence, rate its quality, and move in a transparent manner from

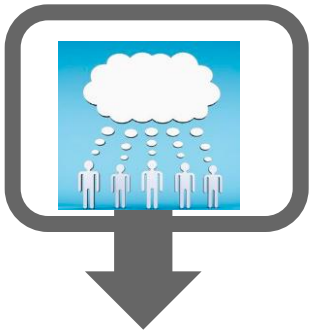
of Recommendations Assessment, Development and Evaluation (GRADE) system.[4,5] GRADE has become an international standard, adopted by > 70 organiza-

For editorial comment see page 365

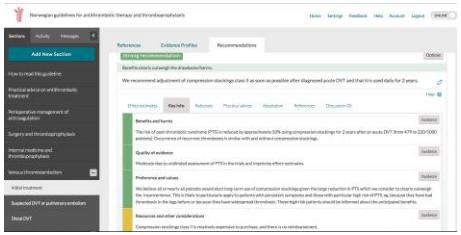
tions worldwide, providing a framework and detailed guidance for producing trustworthy guidelines.[6]

Despite this progress, challenges remain (Table 1).

magic
making GRADE
the irresistible choice



Guideline panel using MAGICapp



Guideline authoring and publication platform (MAGICapp)

New evidence

Dynamic updating

PICO | Individual studies | Descriptive tables | Evidence profiles | GRADE

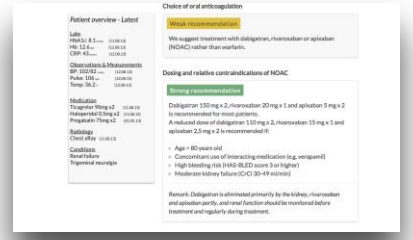
Recommendations | Key information | Rationale

Database
structured and tagged content

Multilayered formats for all devices

MAGIC with DECIDE

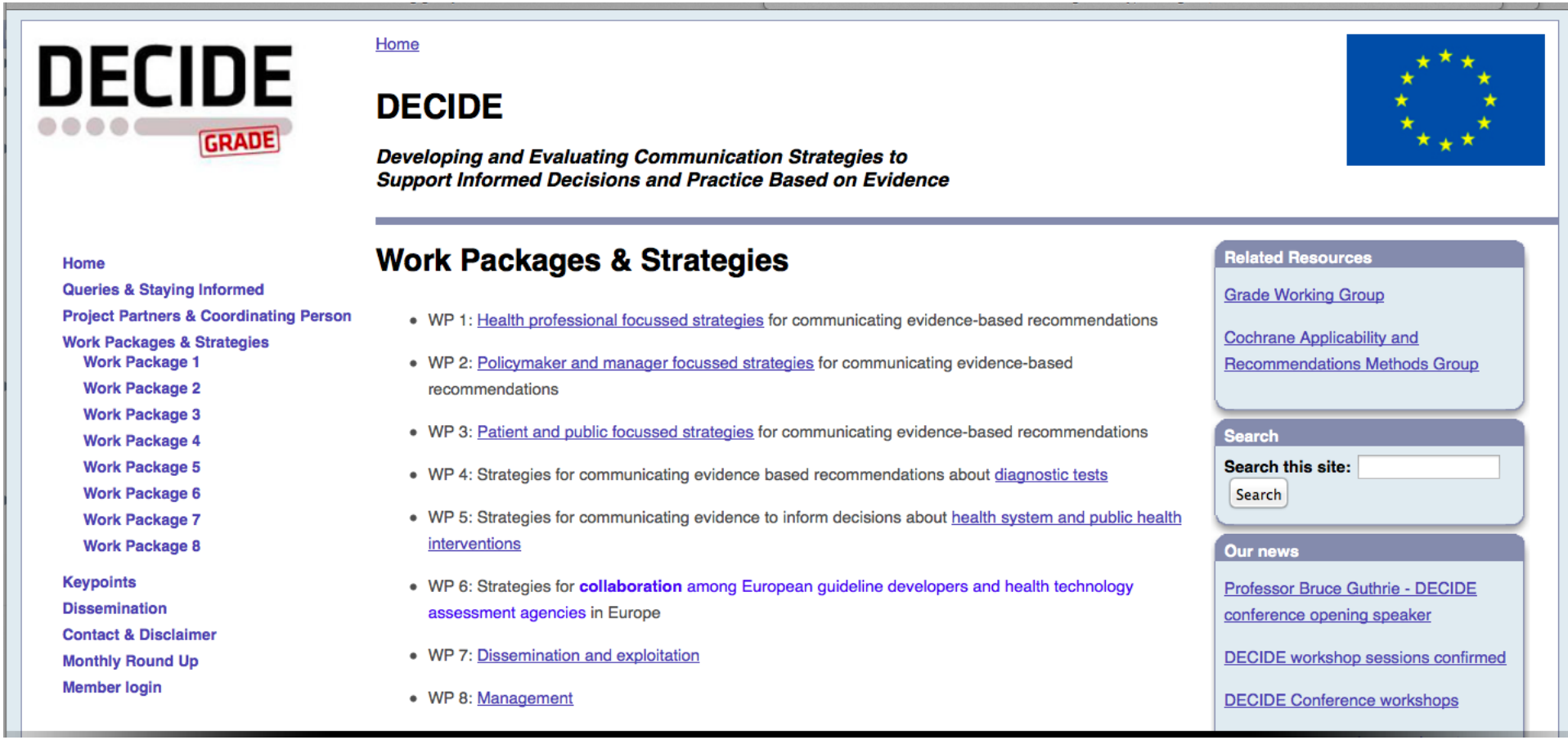
Integrated in the EMR



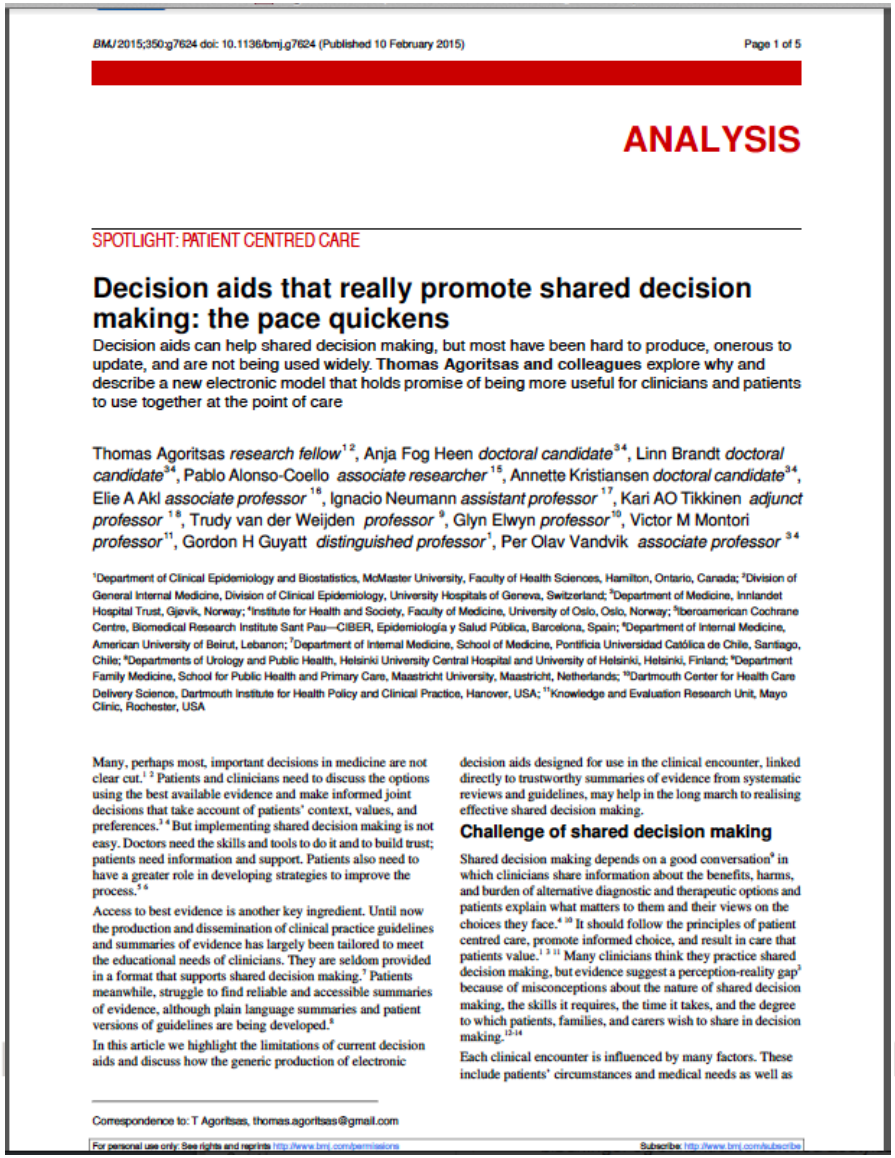
Adaptation
National/ local or EBM Textbooks

Decision aids for patients and clinicians

MAGIC collaborates with DECIDE +++



SHARE IT: Creating discussions in consultations



BMJ 2015;350:g7624 doi: 10.1136/bmj.g7624 (Published 10 February 2015)

ANALYSIS

SPOTLIGHT: PATIENT CENTRED CARE

Decision aids that really promote shared decision making: the pace quickens

Decision aids can help shared decision making, but most have been hard to produce, onerous to update, and are not being used widely. **Thomas Agoritsas and colleagues** explore why and describe a new electronic model that holds promise of being more useful for clinicians and patients to use together at the point of care

Thomas Agoritsas *research fellow*[1 2], Anja Fog Heen *doctoral candidate*[3 4], Linn Brandt *doctoral candidate*[3 4], Pablo Alonso-Coello *associate researcher*[1 5], Annette Kristiansen *doctoral candidate*[3 4], Elie A Akl *associate professor*[1 6], Ignacio Neumann *assistant professor*[1 7], Kari AO Tikkinen *adjunct professor*[1 8], Trudy van der Weijden *professor*[9], Glyn Elwyn *professor*[10], Victor M Montori *professor*[11], Gordon H Guyatt *distinguished professor*[1], Per Olav Vandvik *associate professor*[3 4]

[1]Department of Clinical Epidemiology and Biostatistics, McMaster University, Faculty of Health Sciences, Hamilton, Ontario, Canada; [2]Division of General Internal Medicine, Division of Clinical Epidemiology, University Hospitals of Geneva, Switzerland; [3]Department of Medicine, Innlandet Hospital Trust, Gjøvik, Norway; [4]Institute for Health and Society, Faculty of Medicine, University of Oslo, Oslo, Norway; [5]Iberoamerican Cochrane Centre, Biomedical Research Institute Sant Pau—CIBER, Epidemiología y Salud Pública, Barcelona, Spain; [6]Department of Internal Medicine, American University of Beirut, Lebanon; [7]Department of Internal Medicine, School of Medicine, Pontificia Universidad Católica de Chile, Santiago, Chile; [8]Departments of Urology and Public Health, Helsinki University Central Hospital and University of Helsinki, Helsinki, Finland; [9]Department Family Medicine, School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands; [10]Dartmouth Center for Health Care Delivery Science, Dartmouth Institute for Health Policy and Clinical Practice, Hanover, USA; [11]Knowledge and Evaluation Research Unit, Mayo Clinic, Rochester, USA

Many, perhaps most, important decisions in medicine are not clear cut.[1 2] Patients and clinicians need to discuss the options using the best available evidence and make informed joint decisions that take account of patients' context, values, and preferences.[3 4] But implementing shared decision making is not easy. Doctors need the skills and tools to do it and to build trust; patients need information and support. Patients also need to have a greater role in developing strategies to improve the process.[5 6]

Access to best evidence is another key ingredient. Until now the production and dissemination of clinical practice guidelines and summaries of evidence has largely been tailored to meet the educational needs of clinicians. They are seldom provided in a format that supports shared decision making.[7] Patients meanwhile, struggle to find reliable and accessible summaries of evidence, although plain language summaries and patient versions of guidelines are being developed.[8]

In this article we highlight the limitations of current decision aids and discuss how the generic production of electronic decision aids designed for use in the clinical encounter, linked directly to trustworthy summaries of evidence from systematic reviews and guidelines, may help in the long march to realising effective shared decision making.

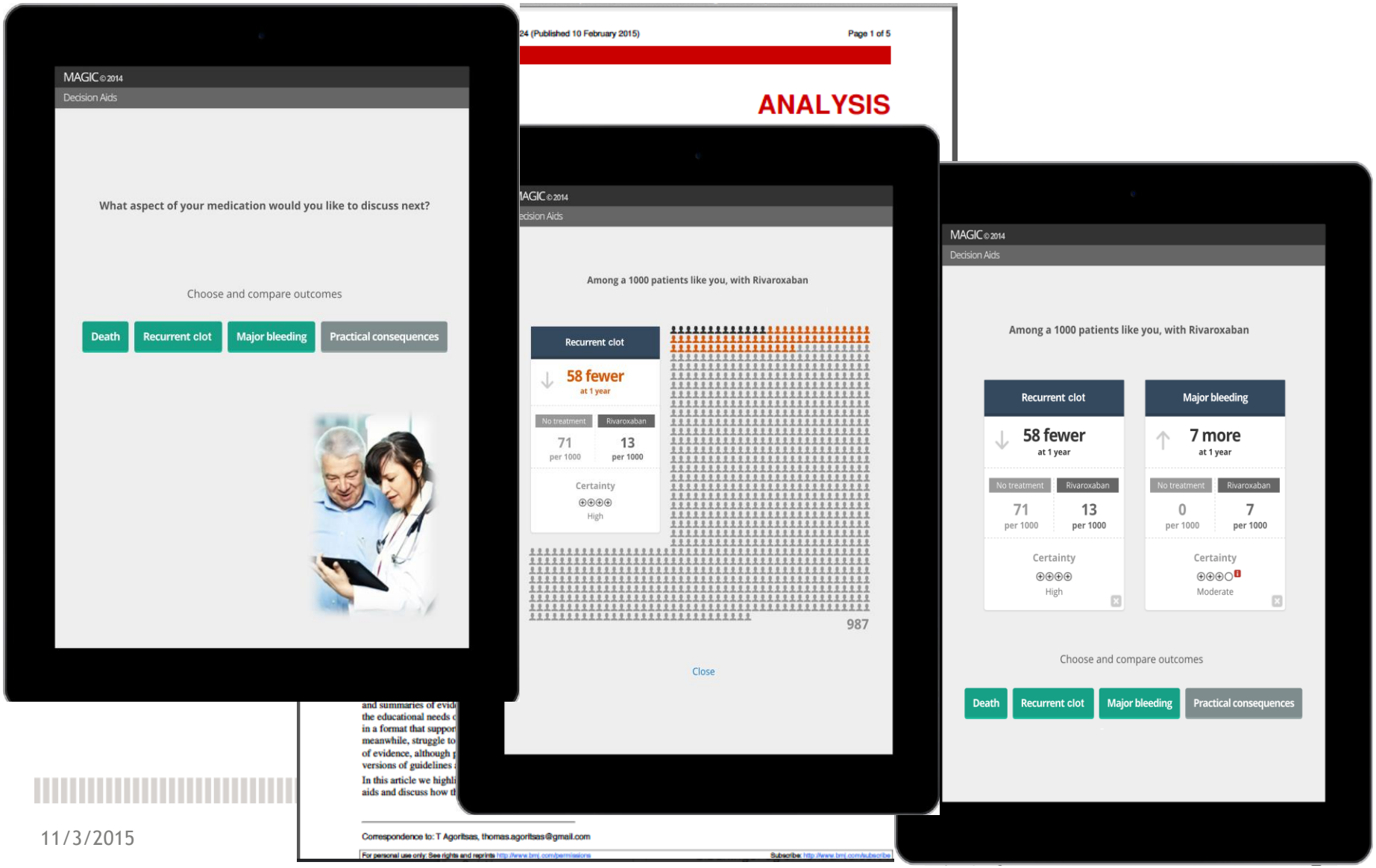
Challenge of shared decision making

Shared decision making depends on a good conversation[9] in which clinicians share information about the benefits, harms, and burden of alternative diagnostic and therapeutic options and patients explain what matters to them and their views on the choices they face.[4 10] It should follow the principles of patient centred care, promote informed choice, and result in care that patients value.[1 3 11] Many clinicians think they practice shared decision making, but evidence suggest a perception-reality gap[3] because of misconceptions about the nature of shared decision making, the skills it requires, the time it takes, and the degree to which patients, families, and carers wish to share in decision making.[12-14]

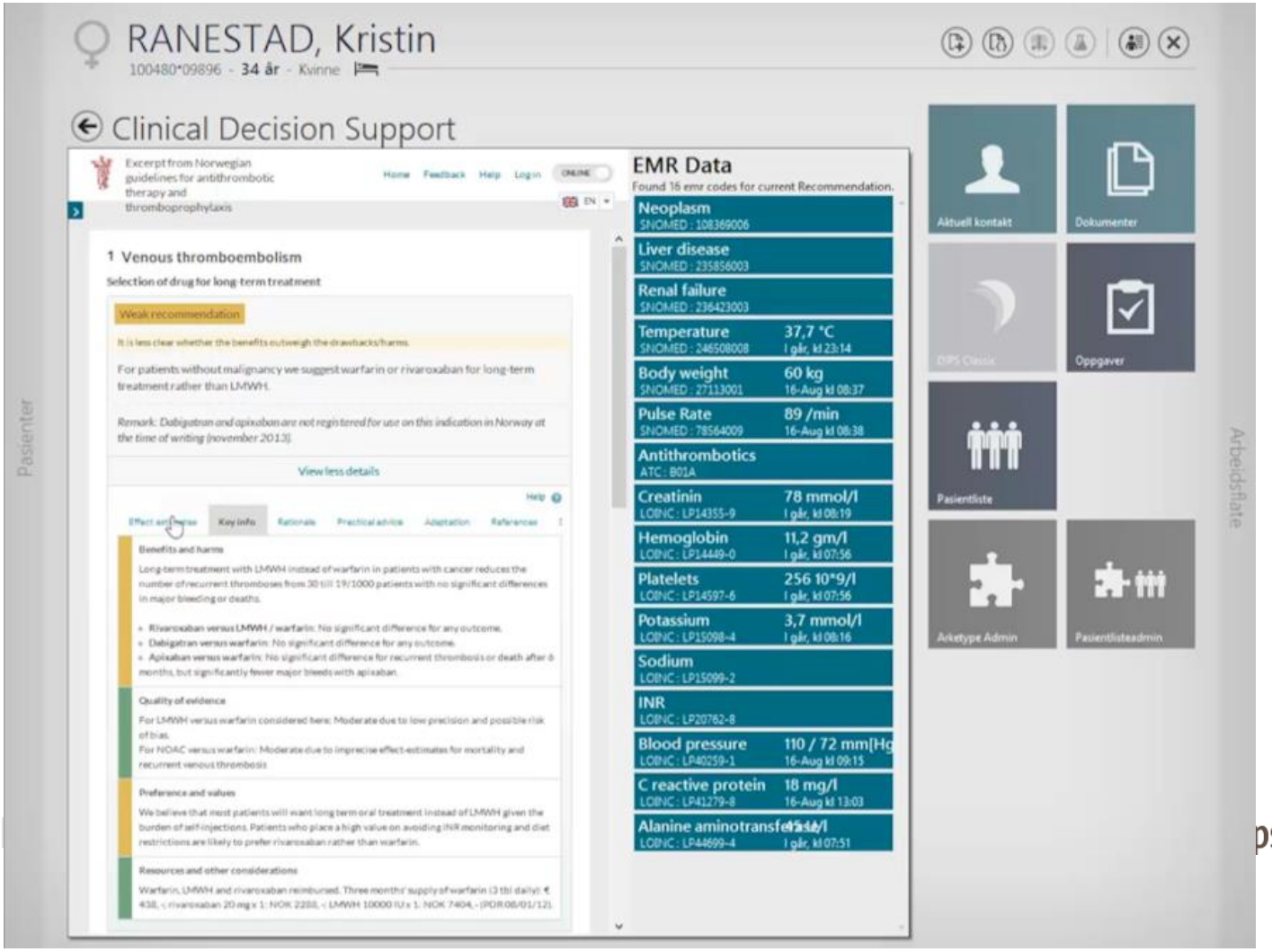
Each clinical encounter is influenced by many factors. These include patients' circumstances and medical needs as well as

Correspondence to: T Agoritsas, thomas.agoritsas@gmail.com

SHARE IT: Creating discussions in consultations



Integrating recommendations in the EMR, linked to patient specific data



Multilayered presentation formats for you

www.magicapp.org

Should we recommend surgery for Anna?

References | Evidence Profiles | Recommendations

Search for recommendations | Search

1 Surgery for degenerative meniscal tears

Background Text | Add Recommendation

Strong recommendation

Options

Benefits clearly outweigh the drawbacks/harms.

In patients with degenerative meniscal tears we recommend not performing arthroscopic partial meniscectomy

Help

Effect estimates | **Key info** | Rationale | Practical advice | Adaptation | References | Discussion (0)

Benefits and harms — Guidance

For patients treated with arthroscopic partial meniskectomy compared to sham-surgery at 3 month follow up:

No important difference in pain (SMD 0.2 higher, 95% CI: 0.67 lower to 0.26 higher) or function (SMD 0.25 higher, 95% CI: 0.02-0.48 higher)

Risk of deep venous thrombosis (6/1000), surgical complications (5/1000), infections (5/1000), cardiovascular events (3/1000) and death (1/1000)

Quality of evidence — Guidance

We have moderate to high confidence in the effect-estimates for pain and function (systematic review of 4 trials, 800 patients) and risk estimates for adverse events (register-study of 14 391 patients)

Preference and values — Guidance

We believe all or nearly all patients being well-informed about the lacking benefits and potential risks of partial meniscectomies would elect not to undergo such procedures and rather use other treatments (e.g. physical exercise)

Resources and other considerations — Guidance

Partial meniscectomies is costly (approximately 15 000 NOK/ procedure), places high resource-demands on health care and is not cost-effective (SBU, Sweden 2014)

Changing practice requires more than EBM

Surgery for degenerative meniscal tears?

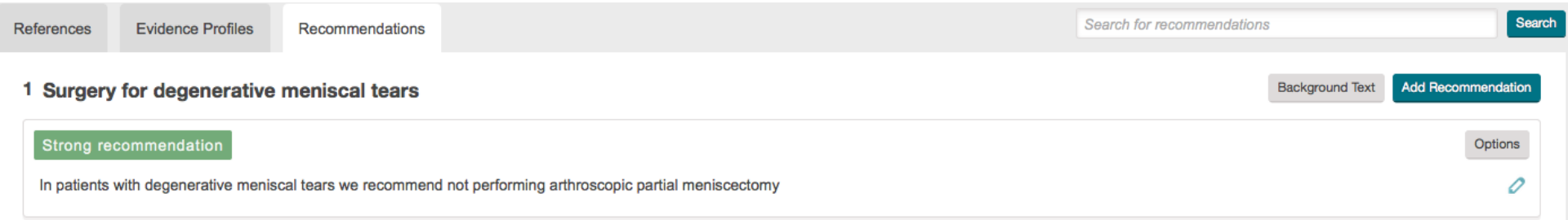
FOCUSED QUESTIONS

Search for recommendations in evidence-based guidelines

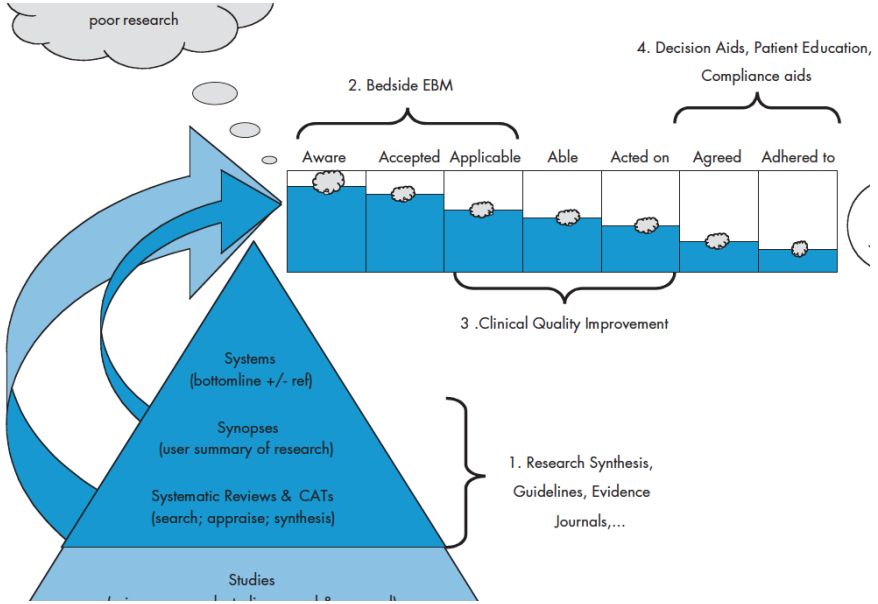
Strong recommendation against meniscectomy

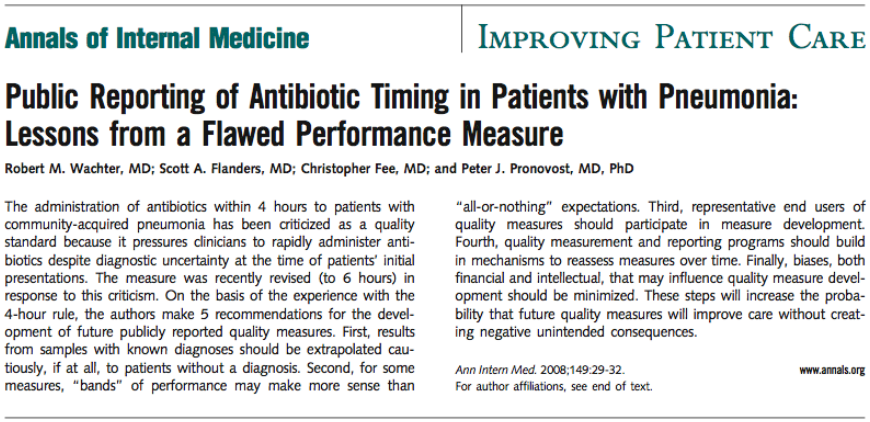
Apply the recommendation on individual patients

Quality improvement
Measure practice



Health care and society face big challenges





Annals of Internal Medicine | IMPROVING PATIENT CARE

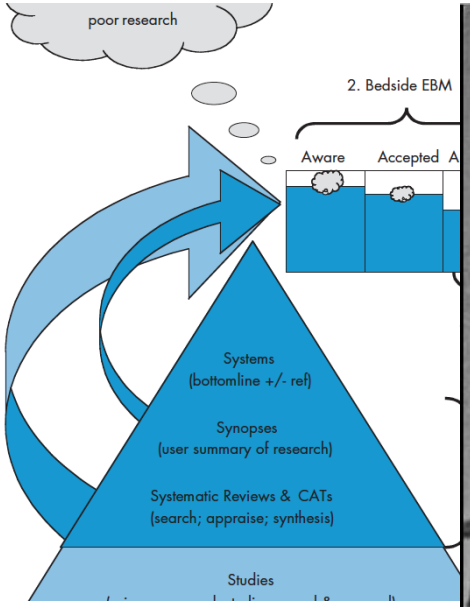
Public Reporting of Antibiotic Timing in Patients with Pneumonia: Lessons from a Flawed Performance Measure

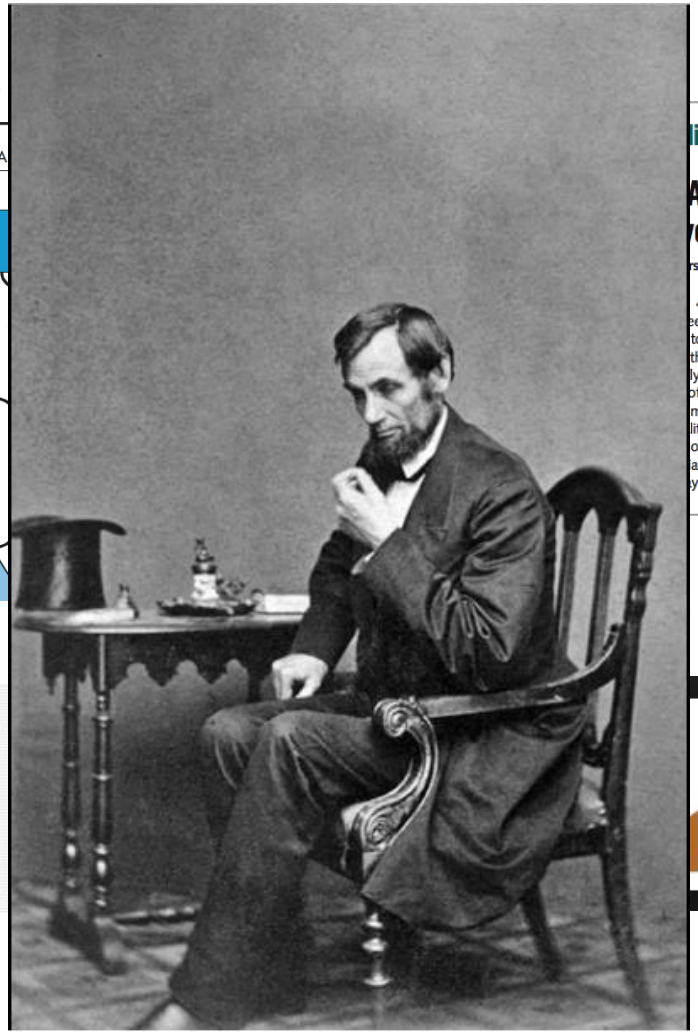
Robert M. Wachter, MD; Scott A. Flanders, MD; Christopher Fee, MD; and Peter J. Pronovost, MD, PhD

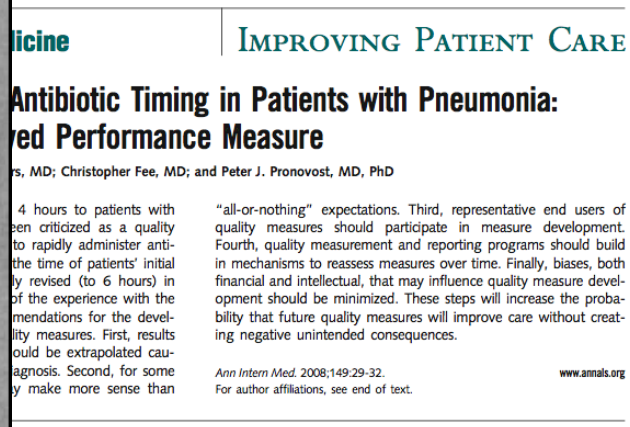
The administration of antibiotics within 4 hours to patients with community-acquired pneumonia has been criticized as a quality standard because it pressures clinicians to rapidly administer antibiotics despite diagnostic uncertainty at the time of patients' initial presentations. The measure was recently revised (to 6 hours) in response to this criticism. On the basis of the experience with the 4-hour rule, the authors make 5 recommendations for the development of future publicly reported quality measures. First, results from samples with known diagnoses should be extrapolated cautiously, if at all, to patients without a diagnosis. Second, for some measures, "bands" of performance may make more sense than "all-or-nothing" expectations. Third, representative end users of quality measures should participate in measure development. Fourth, quality measurement and reporting programs should build in mechanisms to reassess measures over time. Finally, biases, both financial and intellectual, that may influence quality measure development should be minimized. These steps will increase the probability that future quality measures will improve care without creating negative unintended consequences.

Ann Intern Med. 2008;149:29-32. www.annals.org
For author affiliations, see end of text.

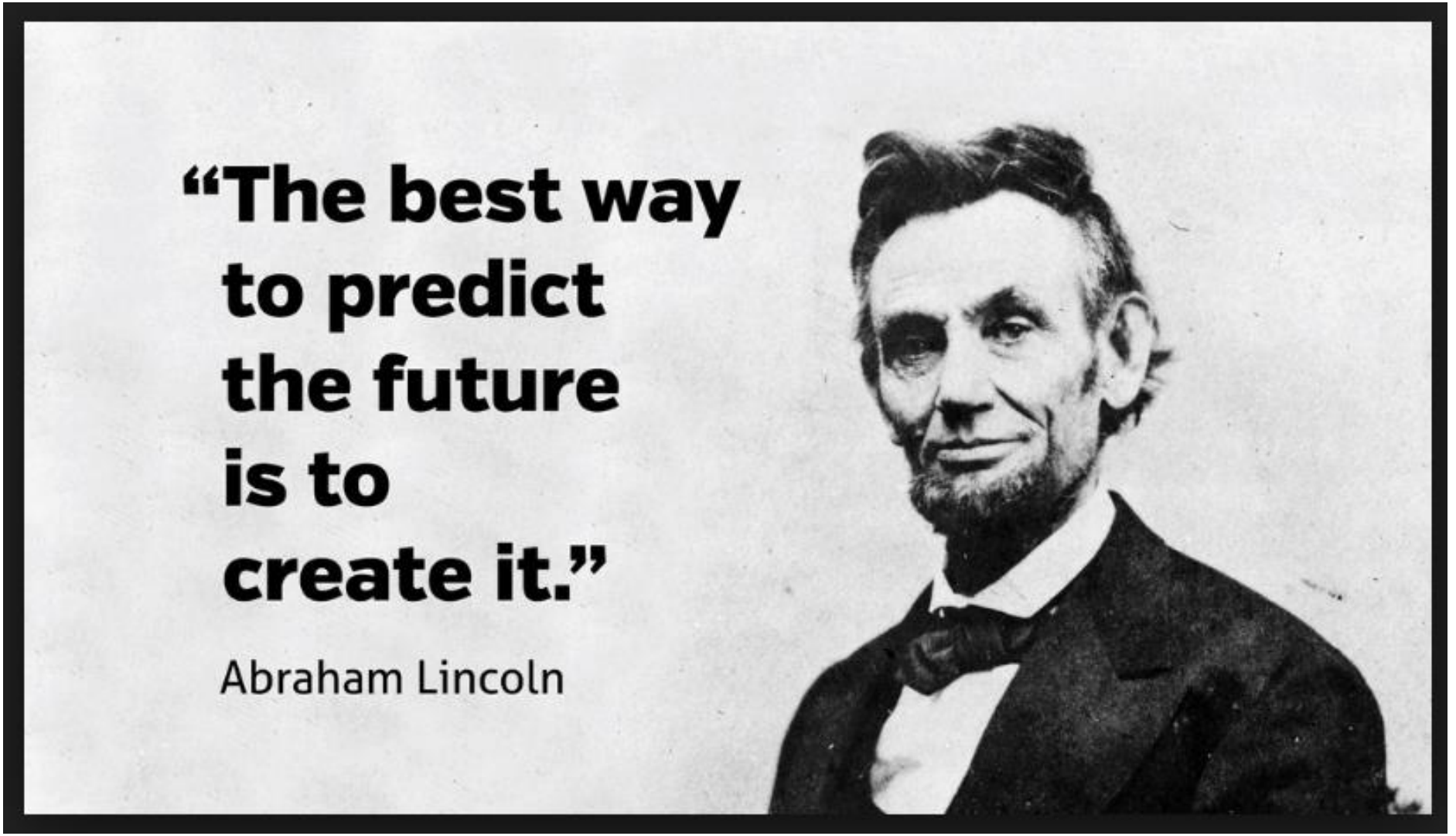
Health care and society face big challenges







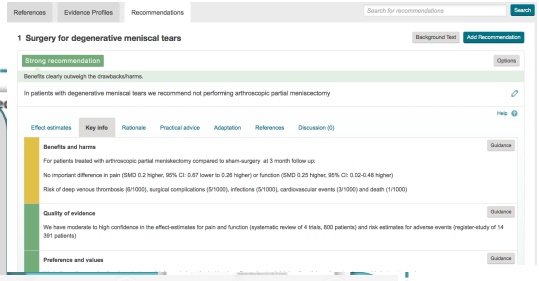
Health care and society face big challenges



The Evidence Ecosystem: Main objective

To create a digital evidence ecosystem connecting **people -** performing primary research, systematic reviews, guidelines, computerized decision support(CDS) and quality improvement – with **digitally structured data** in innovative technological platforms, to facilitate the creation, dissemination and implementation of trustworthy evidence in clinical practice

Meniscus surgery: No more waste in Norway?



T2

November 2014
Systematic review published

March 2015
ad hoc: Strong rec against surgery

January 2013:
RCT in NEJM

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Enhancing the Evidence Ecosystem

Evidence for Shared Decision Making
+ patient practical issues

Decision Aids for the clinical encounter

T1

Basic research
E.g. pharmacogenomics drug development…

T3

Document change in practice, repeat quality measurement. What are we waiting for?

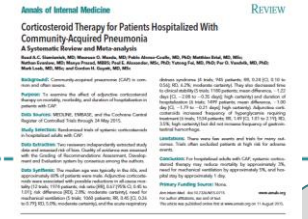
Barriers:

-Surgeons hiding
-Funding (DRG)
- Silos of people
- No explicit links

Reducing waste?

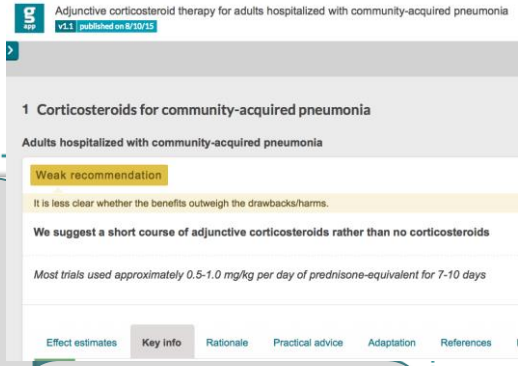
If implemented November 2014?
100 mill Euros saved by now

Steroids in pneumonia: WikiRecs as alternative approach


Annals of Internal Medicine REVIEW

Corticosteroid Therapy for Patients Hospitalized With Community-Acquired Pneumonia

A Systematic Review and Meta-analysis


Adjunctive corticosteroid therapy for adults hospitalized with community-acquired pneumonia

v1.1 published on 8/10/15

1 Corticosteroids for community-acquired pneumonia

Adults hospitalized with community-acquired pneumonia

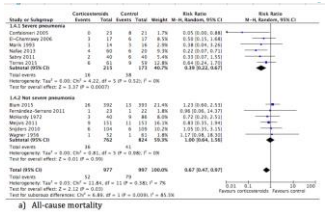
Weak recommendation

It is less clear whether the benefits outweigh the drawbacks/harms.

We suggest a short course of adjunctive corticosteroids rather than no corticosteroids

Most trials used approximately 0.5-1.0 mg/kg per day of prednisone-equivalent for 7-10 days

Effect estimates | Key info | Rationale | Practical advice | Adaptation | References


a) All-cause mortality

T2

Day 3o: Systematic review submitted to journal

11 August 2015: Systematic review and WikiRecs published

Recommendation can be integrated in the EMR…?

19 January 2015: RCT i Lancet

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Enhancing the Evidence Ecosystem

We can do shared decision-making…

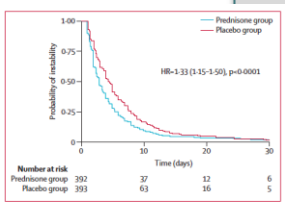

Figure 2: Kaplan-Meier curve of time to clinical stability

T1

Basic research

E.g. pharmacogenomics drug development…

T3

Document change in practice, in the EMR , in registries…
What are we waiting for?

Increasing value?

If implemented March 2015? 400 lives saved in Norway by now

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G-I-N Nordic Ecosystem for trustworthy guideline creation,dissemination and updating

Project leader:

Helsedirektoratet

Funded by:

norden
Nordic Innovation

Socialstyrelsen

Sundhedsstyrelsen

DUODECIM

Take home messages

- Advances in standards, systems and tools for EBM
- Technology will play a key role in creating, disseminating and updating trustworthy evidence in a digital world
- EBM not enough: Evidence Ecosystem a solution?
- Equally important as **technology** is **collaboration** and **sharing of information:** A true collaborative culture, lots of work (and perhaps some more magic ;-)

Dealing with multimorbidity in guidelines, solutions?

RESEARCH

OPEN ACCESS

Drug-disease and drug-drug interactions: systematic examination of recommendations in 12 UK national clinical guidelines

Siobhan Dumbreck,[1] Angela Flynn,[1] Moray Nairn,[2] Martin Wilson,[3] Shaun Treweek,[4] Stewart W Mercer,[5] Phil Alderson,[6] Alex Thompson,[7] Katherine Payne,[7] Bruce Guthrie[1]

"Paper based single disease guidelines are intrinsically limited by being hard to integrate for people with multiple conditions and by being unable, for reasons of length and usability, to document all possible interactions. In principle, guidelines embedded in electronic medical records that integrate recommendations for all the conditions an individual has could deal with the problem we identied, including the difficulty of accounting for high levels of complexity but the best design and effectiveness of such guidelines requires more research"

Creating a discussion with Anne

MAGIC

Decision Aids

Low dose aspirin vs. no treatment for primary prevention ▼

What aspect of your medication would you like to discuss next?

Choose and compare outcomes

Mortality | **Myocardial infarctions** | **Non-fatal stroke** | **Major extracranial bleeding** | **Practical consequences**

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MAGIC

Decision Aids

Low dose aspirin vs. no treatment for primary prevention

Among a 1000 patients like you, with aspirin

Mortality

6 fewer
at 10 years

No treatment	Aspirin
100 per 1000	94 per 1000

Certainty

⊕⊕⊕◯

Moderate

Choose and compare outcomes

Mortality | **Myocardial infarctions** | **Non-fatal stroke** | **Major extracranial bleeding** | **Practical consequences**

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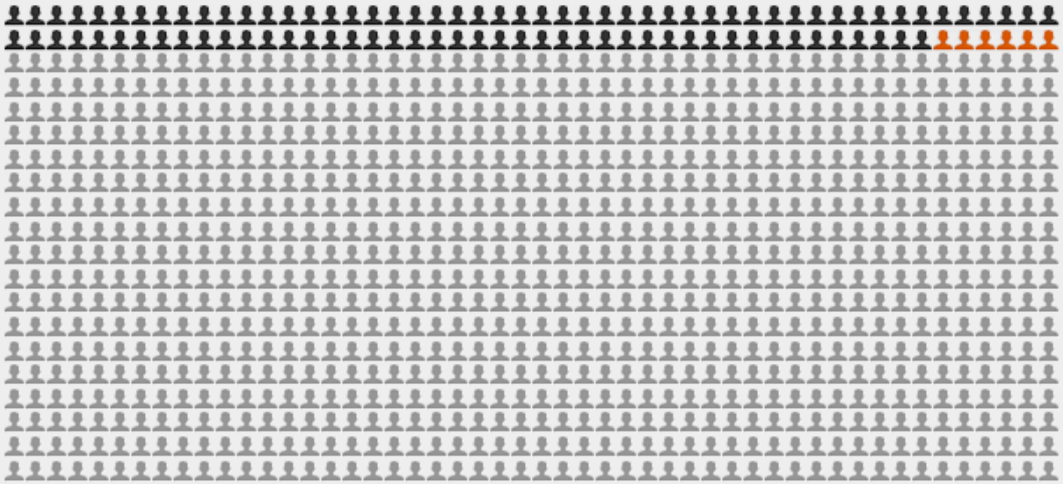

906 patients will **not** have mortality

Close

Mortality | Myocardial infarctions | Non-fatal stroke | Major extracranial bleeding | Practical consequences

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MAGIC

Decision Aids

Low dose aspirin vs. no treatment for primary prevention ▼

Practical consequences

Medication routine	Tests and visits	Procedure and device	Recovery and adaptation	Coordination of care
Adverse effects, interactions and antidote	Physical well-being	Emotional well-being	Pregnancy and nursing	Costs and access
Food and drinks	Exercise and activities	Social life and relationships	Work and education	Travel and driving

Close

Mortality | Myocardial infarctions | Non-fatal stroke | Major extracranial bleeding | Practical consequences

MAGIC

Decision Aids

Low dose aspirin vs. no treatment for primary prevention

Among a 1000 patients like you, with aspirin

Mortality	Myocardial infarctions	Major extracranial bleeding
↓ 6 fewer at 10 years	↓ 28 fewer at 10 years	↑ 20 more at 10 years
No treatment: 100 per 1000	No treatment: 121 per 1000	No treatment: 37 per 1000
Aspirin: 94 per 1000	Aspirin: 93 per 1000	Aspirin: 57 per 1000
Certainty: ⊕⊕⊕◯ Moderate	Certainty: ⊕⊕⊕⊕ High	Certainty: ⊕⊕⊕⊕ High

Choose and compare outcomes

Mortality | Myocardial infarctions | Non-fatal stroke | Major extracranial bleeding | Practical consequences

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