

Rannsóknir

Jón Steinar Jónsson

Yfirlæknir á Þróunarmiðstöð íslenskrar heilsugæslu

Heilsugæslulæknir HH (Efstaleiti)

Lektor læknadeild HÍ





Praktisera læknisfræði

- Ábyrgð
- Skyldur
- Viðhorf
- Væntingar
- Álag
- Lífsfylling

Fjármunir

- Nýta
- Nota
- Sóa


Doctor's delay – klínik – rannsóknir -aðgengi

- Snúinn ökkli
- Höfuðverkur
- Brjóstverkur
- Mjóbaksverkur
- Kviðverkur
- Axlarverkur
- Hálshryggsverkur

Snúinn ökkli

The Ottawa Ankle Rules

A clinical decision rule to determine the need for diagnostic imaging for ankle and/or foot trauma

 Developed by Dr. Ian Stiell

 View Publications

An ankle X-Ray series is only required if there is any pain in the malleolar zone and...

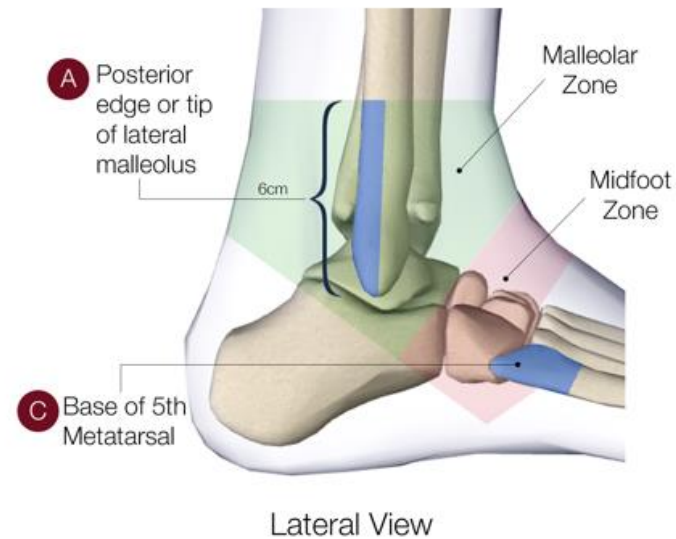
Bone tenderness at the posterior edge or tip of the lateral malleolus (A)

OR

Bone tenderness at the posterior edge or tip of the medial malleolus (B)

OR

An inability to bear weight both immediately and in the emergency department for four steps



Mjóðaksverkir - Myndgreining

NICE júlí 2017

Quality statement 2: Referrals for imaging

Quality statement

Young people and adults with low back pain with or without sciatica do not have imaging requested by a non-specialist service unless serious underlying pathology is suspected.

Rationale

Imaging does not often change the initial management and outcomes of someone with back pain. This is because the reported imaging findings are usually common and not necessarily related to the person's symptoms. Many of the imaging findings (for example, disc and joint degeneration) are frequently found in asymptomatic people. Requests for imaging by non-specialist clinicians, where there is no suspicion of serious underlying pathology, can cause unnecessary distress and lead to further referrals for findings that are not clinically relevant.

- Rauð flögg
- Breytir sjaldan byrjunarmeðferð og útkomu/árangri
- Frávik algeng og ekki endilega tengd einkennum
- Frávik algeng hjá bakfrískum
- Frávik geta valdið óþarfa áhyggjum og frekari óþarfa rannsóknum

- ALLT ÞAÐ, SEM SÉST Á MYNDUM HJÁ ÞEIM, SEM ERU MEÐ BAKVANDA, SÉST LÍKA HJÁ ÞEIM, SEM ALDREI HAFNA FUNDIÐ TIL Í BAKI
- „IT'S QUITE ALRIGHT TO TAKE X-RAYS OF THE SPINE - IT CALMS THE PATIENT. - JUST DON'T LOOK AT THE PICTURES“(J.H.CYRIAX)
- ERFITT AÐ HORFA FRAM HJÁ NIÐURSTÖÐUM, ÞEGAR ÞÆR LIGGJA FYRIR

Mjóbaksrannsóknir – Yfirlit BMJ 2014

- Getur verið ofnotað
 - Misleading findings
 - Lack of proved benefit
- MRI viðeigandi
 - Major neurologic deficits
 - Klínísk merki um brjós-klos eða stenosu sem ekki svarar meðferð
- Rauð flögg
 - myndrannsókn
- MRI hjá einkennalausum
 - 20-40% með brjós-klos
 - 80% með brjós-kbungun



KEY POINTS

Imaging of the lumbar spine for low risk patients can be overused given its low yield of useful findings, high yield of misleading findings, and lack of proved benefit for outcome. Radiography (with or without erythrocyte sedimentation rate) is often an appropriate initial test for suspected cancer, fracture, or inflammatory spondylopathy. MRI is appropriate for patients with major neurologic deficits. It is also appropriate for those with a clinical picture of sciatica or stenosis who fail to improve with a therapeutic trial and are potential candidates for surgery or epidural steroids. Patient histories of cancer, injection drug use, major trauma, or prolonged corticosteroid use are important "red flags" to prompt imaging; other individual red flags have weak likelihood ratios, and the full clinical picture should guide the ordering of lumbar images.

BMJ,2001: Hópur sjúklinga með mjóbaksverki. Slembival, hverjir voru myndaðir. Þeir,sem voru myndaðir voru ánægðari eftir á,en eftir nokkra mánuði höfðu þeir meiri verki og fannst heilsan verri en þeir, sem ekki voru myndaðir.

Am.Journal of Neuroradiology,2008: Hópur sjúklinga með bakverki.Allir myndaðir, en niðurstöður einungis sagðar helmingnum.Við eftirlit síðar reyndust þeir verr staddir hvað bata varðar.

JAMA,2003: Sjúklingahópur, sem röntgenmyndataka hafði verið pöntuð fyrir.Helmingur var í staðinn sendur í SÓ (slembival). Þeir,sem fóru í SÓ, voru tvöfalt líklegri til að fara í skurðaðgerð. Bataprósentan við eftirfylgni var sú sama.

Spine,2005: Hópur af fólki án bakverkjasögu fór í SÓ. SÓ er léleg að ferð til að finna út, hverjir muni fá bakverki og hverjir ekki

Myndgreining af hryggsúlu

- Hver er spurningin?
- Færðu svarið?
- Breytir svarið meðferðinni?
- Hefur svarið meðferðargildi?
- Kostnaður?

Iskías – taugaverkur -staðvilluverkur

- 56 ára karl með verk frá baki með leiðni í hæ rasskinn í 2 mánuði
- Reynt teygjur og göngur, nsaid, einföld verkjalyf
- Skoðun eðlileg, nema pos SLR
- Við eftirlit 2 mán síðar með minnkaðan kraft í ext í stóru tá en kraftur í ökkla eðlilegur

- MRI – lítið brjósklos L4-5 dx og osteophyt
- Meðferð ?

- Niðurstaða ?
- Lækning ?
- Krónískur sjúkdómur ?

Öxl

- Algengi axlarverkja 7-26%
- Þriðja algengasta stoðkerfisvandamálið (mjóbak og hálshryggur)
- MRI hjá 96 einkennalausum einstaklingum
 - 15% fullþykktarrifa í rotator cuff sin
 - 20% rifa í rotator cuff sin
 - 54% eldri en 60 ára höfðu rifu í rotator cuff

57 ára karl – axlarverkur í 3 mán

- 2 vikur í meðferð hjá sjúkraþjálfara
- Sjúkraþjálfari mælir með röntgenrannsókn
- Vægt minnkuð og sár abduction
- Útrot eðlileg
- Isometrískt í lagi
- Ekki palp eymsli
- Ac liður í lagi
- Röntgenrannsókn? Hvaða?

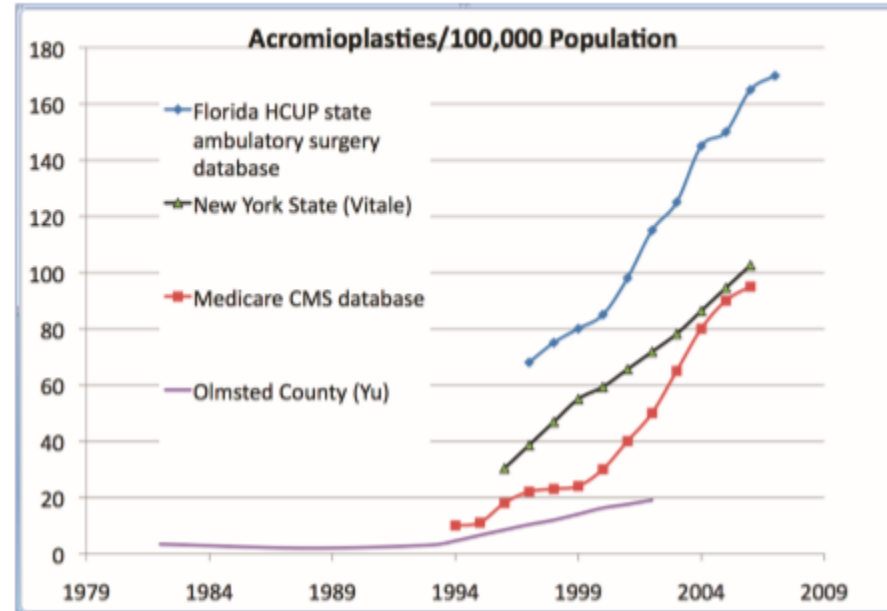


Fig. 1

Rates of acromioplasty per 100,000 individuals. Data are from the Florida Healthcare Utilization Project (HCUP) State Ambulatory Surgery Database (SASD), the recent paper by Vitale et al.³ for the State of New York, the national Centers for Medicare and Medicaid Services (CMS) database, and a recent paper by Yu et al.² regarding Olmsted County, Minnesota. The Medicare data represent the rates of acromioplasty, including inpatient, outpatient, open, and arthroscopic procedures, among Medicare enrollees (individuals sixty-five years and older) from 1994 through 2006 obtained from the CMS. These rates are based on the 5% CMS sample from 1994 to 2001 and the 20% sample from 2002 to 2006. Essentially all of the increase has been in arthroscopic acromioplasty, while the rate of open acromioplasty has remained essentially unchanged. The Florida data show the rate of outpatient acromioplasty among Florida residents over the age of fifteen years from 1997 to 2003. The Florida HCUP SASD database is one of the few available that allows one to calculate population rates of outpatient procedures on the basis of CPT codes rather than ICD codes.

Subacromial decompression versus diagnostic arthroscopy for shoulder impingement: randomised, placebo surgery controlled clinical trial

Mika Paavola,¹ Antti Malmivaara,² Simo Taimela,^{1,3} Kari Kanto,⁴ Jari Inkinen,⁵ Juha Kalske,⁶ Ilkka Sinisaari,⁷ Vesa Savolainen,⁸ Jonas Ranstam,⁹ Teppo L N Järvinen^{1,3} for the Finnish Shoulder Impingement Arthroscopy Controlled Trial (FIMPACT) Investigators

WHAT IS ALREADY KNOWN ON THIS TOPIC

Arthroscopic subacromial decompression, the most commonly performed shoulder surgery, is carried out to treat patients with shoulder impingement syndrome

Three recent systematic reviews indicate that subacromial decompression is not superior to exercise therapy in patients with shoulder impingement syndrome

Without a placebo surgical comparator (proper blinding), the efficacy of arthroscopic subacromial decompression cannot be assessed

WHAT THIS STUDY ADDS

This FIMPACT trial and the recently published (highly similar) CSAW trial are the first two placebo surgery controlled trials on the efficacy of arthroscopic subacromial decompression

Both arthroscopic subacromial decompression and diagnostic arthroscopy (placebo surgery) resulted in significant improvements in pain and functional outcomes with no difference in the incidence of adverse events

However, the patients assigned to arthroscopic subacromial decompression had no superior improvement over those assigned to diagnostic arthroscopy

Blóðrannsóknir í heilsugæslu

Skjólstæðingar heilsugæslunnar vs spítala

Bráðaveikindi vs krónísk veikindi

Einn sjúkdómur vs margir sjúkdómar

Líkamleg veikindi og/eða andleg veikindi

Óljós einkenni

Mörg einkenni

Væntingar og óskir skjólstæðinga

Samband læknis og sjúklings

Rannsóknargátt

A screenshot of the Heilsugátt web application interface. At the top, there are window control buttons (minimize, maximize, close) and a status bar with icons for lock, mail, help, and user. Below this is a header area with the text "Heilsugátt" and a small document icon. A navigation bar contains four buttons: "Nýtt í Heilsugátt" (green 'i' icon), "Senda ábendingu" (blue paper plane icon), "Valmynd" (blue hamburger menu icon), and "Útskráning" (orange 'E' icon). Below the navigation bar is a button labeled "Skrá áminningu" with a clock icon. A large blue arrow points upwards from below towards the "Skrá áminningu" button.

A screenshot of the Rannsóknargátt web application interface. At the top, there are four buttons: "Nýtt í Heilsugátt" (green 'i' icon), "Senda ábendingu" (blue paper plane icon), "Valmynd" (blue hamburger menu icon), and "Útskráning" (orange 'E' icon). Below this is a header area with three columns: "Kerfi", "Sérlausnir", and "Stjórnborð". Under "Kerfi", there are links for "Cyberlab", "Afhending röntgenmynda", "Stofnskrá lyfja", "Hrós - Niðurstöður blóðrannsókna", "Gervikennitölur", "Símanúmer vakta", and "Rannsóknargátt". Under "Sérlausnir", there are links for "Skráningarform", "Microguide", and "UpToDate". Under "Stjórnborð", there are links for "Stillingar" and "Leiðbeiningar". A large blue arrow points from the "Skrá áminningu" button in the previous screenshot towards the "Rannsóknargátt" link in this screenshot.

Rannsóknargátt frh

Enginn sjúklingur valinn Mín síða JSJ-HH Stofnun Rannsóknargátt

Forsíða Skýrslur Stillingar Gjaldskra LSH Um Rannsóknargáttina

Skýrslur Stillingar Gjaldskra LSH Um Rannsóknargáttina

- Yfirlit yfir pantanir lækna
- Yfirlit yfir pantanir deilda
- Heildarnotkun lækna og beiðanda á einstaka rannsóknum
- Samanburður við aðra

Enginn sjúklingur valinn 1 Mín síða JSJ-HH Stofnun

Forsíða Skýrslur Stillingar Gjaldskra LSH Um Rannsóknargáttina

Samanburður við aðra hjá HH

Frá Til Bera saman við

Notandi: hh_jonst Læknanúmer: 1887 Læknanúmer: 63

Samanburður við aðra hjá HH


Frá 08.2018 Til 09.2019 Bera saman við Heilsugæslulæknar [Birta samanburð](#)

Notandi: hh_jonst Læknanúmer: 1887 Læknanúmer: 63

Leita

Rannsókn	Minn fjöldi	Meðal fjöldi	% munur fjölda	Minn kostnaður	Meðal kostnaður	% munur kostnaðar
Blóðhagur	170	276	38%	190.976 kr.	315.171 kr.	39%
P/S-TSH	96	196	51%	119.616 kr.	248.234 kr.	51%
Þvag_almenn	34	61	44%	107.942 kr.	195.111 kr.	44%
Blóðtökugjald alm.	277	327	15%	103.727 kr.	123.978 kr.	16%
P/S-Ferrítín	60	140	57%	74.760 kr.	175.784 kr.	57%
B-HbA1c	60	101	40%	74.715 kr.	128.505 kr.	41%
P/S-B12	55	128	57%	68.515 kr.	161.203 kr.	57%
P-INR v/blóðþynninga	37	24	54%	46.447 kr.	31.465 kr.	47%
P/S-Kreatínín	114	224	49%	42.640 kr.	85.180 kr.	49%
P/S-Kólesteról	75	103	27%	37.416 kr.	52.352 kr.	28%
HIV-cobas	7	19	63%	37.141 kr.	99.949 kr.	62%
fS-Glúkósi	141	170	17%	35.182 kr.	42.938 kr.	18%
P-Kalíum	92	196	53%	34.394 kr.	74.429 kr.	53%
Sár_almenn	4	2	100%	31.564 kr.	18.987 kr.	66%
P/S-25-OH-vítamín D	16	52	69%	30.617 kr.	101.249 kr.	69%
Beinþéttnimælingar	6	4	50%	28.602 kr.	19.598 kr.	45%
P/S-PSA	19	21	9%	28.391 kr.	31.142 kr.	8%
P/S-frítt T4	20	63	68%	24.980 kr.	79.957 kr.	68%
HBsAg-cobas	7	18	61%	24.761 kr.	64.671 kr.	61%
P/S-HDL Kólesteról	32	86	62%	23.932 kr.	64.614 kr.	62%
Syphílís-cobas	8	18	55%	20.424 kr.	46.585 kr.	56%
P/S-Þriglýseríðar	31	82	62%	15.462 kr.	41.735 kr.	62%
P/S-Kalsíum	36	27	33%	13.457 kr.	10.178 kr.	32%
tpo	2	3	33%	10.364 kr.	13.450 kr.	22%

Alvöru dæmi um
rannsóknarkostnað
kandíats á fjórum
mánuðum á
heilsugæslunni



Rannsókn	Fjöldi rannsókna	Heildarkostnaður (kr)
Blóðhagur	151	163.830
TSH	71	85.607
B12	67	80.761
Ferrítín	67	80.761
D vítamín	40	73.746
Þvagræktun	22	67.338
Járnbindigeta	66	64.440
Járn	78	42.307
Kreatínín	117	42.303
Kalíum	113	40.857
Natríum	113	40.857
PCR fyrir Chlamydiu	9	39.599
HbA1c	31	37.381
Frítt T4	31	37.381
Fólat	28	33.740
Transferrín	31	30.279
ENA	2	25.100
BNP	5	22.956
CRP	36	21.690

Þær rannsóknir sem kosta mest í HH á eftir Blóðstatus

- TSH
- Þvag
- Ferritin
- B12
- Hba1c
- D vítamín
- Þreyta algengt einkenni - hjá 20-30% skjólstæðinga í heilsugæslu
 - Blóðstatus, sykur, sölt, kalk, nýru, lifur, tsh.....????

Heiti rannsóknar ^	Meðalverð rannsóknar ^	Kostnaður (águ.'18-águ.'19) v	Kostnaður (águ.'17-águ.'18) ^	Kostnaðar breyting ^	Kostnaðar breyting % ^	Fjöldi rannsókna (águ.'18-águ.'19) ^	Fjöldi rannsókna (águ.'17-águ.'18) ^	Breyting fjölda rannsókna ^	Breyting fjölda rannsókna % ^
Blóðhagur	1.136 kr.	36.677.772 kr.	34.831.291 kr.	1.846.481 kr.	5%	32282	31477	805	3%
P/S-TSH	1.259 kr.	28.017.657 kr.	26.233.136 kr.	1.784.521 kr.	7%	22246	21426	820	4%
Þvag_almenn	3.181 kr.	20.410.161 kr.	20.945.721 kr.	-535.560 kr.	-3%	6416	6768	-352	-5%
P/S-Ferrítín	1.253 kr.	20.133.061 kr.	17.637.028 kr.	2.496.033 kr.	14%	16066	14474	1592	11%
P/S-B12	1.253 kr.	18.577.956 kr.	17.469.179 kr.	1.108.777 kr.	6%	14826	14339	487	3%
HIV-cobas	5.369 kr.	16.441.307 kr.	16.465.825 kr.	-24.518 kr.	0%	3062	3156	-94	-3%
Blóðtökugjald alm.	376 kr.	14.064.553 kr.	13.337.217 kr.	727.335 kr.	5%	37375	36442	933	3%
B-HbA1c	1.262 kr.	13.757.270 kr.	13.309.053 kr.	448.217 kr.	3%	10893	10830	63	1%
P/S-25-OH-vítamín D	1.918 kr.	12.267.009 kr.	12.126.963 kr.	140.045 kr.	1%	6393	6508	-115	-2%
HBsAg-cobas	3.579 kr.	10.761.379 kr.	10.716.391 kr.	44.987 kr.	0%	3006	3081	-75	-2%
P/S-Kreatínín	378 kr.	9.628.317 kr.	9.217.282 kr.	411.034 kr.	4%	25413	24988	425	2%
P/S-frítt T4	1.261 kr.	9.540.622 kr.	8.901.495 kr.	639.127 kr.	7%	7562	7248	314	4%
P-Kalíum	378 kr.	8.289.006 kr.	8.180.317 kr.	108.688 kr.	1%	21887	22178	-291	-1%
HCV-cobas	5.367 kr.	8.179.965 kr.	8.136.090 kr.	43.875 kr.	1%	1524	1561	-37	-2%
Syphilis-cobas	2.585 kr.	7.660.607 kr.	7.652.083 kr.	8.524 kr.	0%	2963	3046	-83	-3%
P/S-HDL Kólesteról	752 kr.	7.324.156 kr.	6.682.502 kr.	641.653 kr.	10%	9737	9142	595	7%
Veiruleit	23.856 kr.	6.822.876 kr.	5.704.128 kr.	1.118.748 kr.	20%	286	246	40	16%
P/S-Natríum	378 kr.	6.547.313 kr.	6.737.053 kr.	-189.739 kr.	-3%	17276	18242	-966	-5%
P/S-Kólesteról	505 kr.	5.825.023 kr.	5.352.410 kr.	472.612 kr.	9%	11529	10873	656	6%

Choosing wisely – skynsamlegt val

FOUR QUESTIONS TO ASK MY CLINICIAN OR NURSE TO MAKE BETTER DECISIONS TOGETHER

- | | |
|-----------------|----------------------|
| 1. What are the | Benefits? |
| 2. What are the | Risks? |
| 3. What are the | Alternatives? |
| 4. What if I do | Nothing ? |

Editorials

Helping patients choose wisely

BMJ 2018 ; 361 doi: <https://doi.org/10.1136/bmj.k2585> (Published 15 June 2018)

Cite this as: *BMJ* 2018;361:k2585

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Jack Ross, clinical fellow, Choosing Wisely UK¹, Ramai Santhirapala, clinical lead, Choosing Wisely UK¹, Carrie MacEwen, chair¹, Angela Coulter, health policy analyst and researcher²

[Author affiliations ▾](#)

Correspondence to: J Ross jack.ross@qomrc.org.uk

New UK recommendations emphasise shared decision making

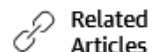
Overdiagnosis and overtreatment are common, harmful to patients, and expensive.^{1 2} Doctors and patients tend to overestimate the benefit and underestimate harm of interventions.^{3 4} Choosing Wisely is a medically led campaign focusing on engaging doctors and patients in decisions about potentially unnecessary medical tests, treatments, and procedures. It started in the US in 2012 and has now been taken up in 22 countries worldwide, including the UK.⁵

[Review](#) | [Less Is More](#)

March 2017

Clinicians' Expectations of the Benefits and Harms of Treatments, Screening, and Tests

A Systematic Review

Tammy C. Hoffmann, PhD¹; Chris Del Mar, MD, FRACGP¹[» Author Affiliations](#)*JAMA Intern Med.* 2017;177(3):407-419. doi:10.1001/jamainternmed.2016.8254Related
Articles

Key Points

Question Do clinicians have accurate expectations of the benefits and harms of treatments, tests, and screening tests?

Findings In this systematic review of 48 studies (13 011 clinicians), most participants correctly estimated 13% of the 69 harm expectation outcomes and 11% of the 28 benefit expectations. The majority of participants overestimated benefit for 32% of outcomes, underestimated benefit for 9%, underestimated harm for 34%, and overestimated harm for 5% of outcomes.

Meaning Clinicians rarely had accurate expectations of benefits or harms, with inaccuracies in both directions, but more often underestimated harms and overestimated benefits.

This Issue

Views **10,684** | Citations **173** | Altmetric **997**

[Review](#) | [Less Is More](#)

February 2015

Patients' Expectations of the Benefits and Harms of Treatments, Screening, and Tests

A Systematic Review

Tammy C. Hoffmann, PhD^{1,2}; Chris Del Mar, MD, FRACGP¹

[» Author Affiliations](#)

JAMA Intern Med. 2015;175(2):274-286. doi:10.1001/jamainternmed.2014.6016

Conclusions and Relevance The majority of participants overestimated intervention benefit and underestimated harm. Clinicians should discuss accurate and balanced information about intervention benefits and harms with patients, providing the opportunity to develop realistic expectations and make informed decisions.

- | | | |
|----------|--|---|
| 1 | Don't do imaging for lower-back pain unless red flags are present. | ▼ |
| 2 | Don't use antibiotics for upper respiratory infections that are likely viral in origin, such as influenza-like illness, or self-limiting, such as sinus infections of less than seven days of duration. | ▼ |
| 3 | Don't order screening chest X-rays and ECGs for asymptomatic or low risk outpatients. | ▼ |
| 4 | Don't screen women with Pap smears if under 21 years of age or over 69 years of age. | ▼ |
| 5 | Don't do annual screening blood tests unless directly indicated by the risk profile of the patient. | ▼ |
| 6 | Don't routinely measure Vitamin D in low risk adults. | ▼ |
| 7 | Don't routinely do screening mammography for average risk women aged 40 – 49. Individual assessment of each woman's preferences and risk should guide the discussion and decision regarding mammography screening in this age group. | ▼ |

8 Don't do annual physical exams on asymptomatic adults with no significant risk factors. ▼

9 Don't order DEXA (Dual-Energy X-ray Absorptiometry) screening for osteoporosis on low risk patients. ▼

10 Don't advise non-insulin requiring diabetics to routinely self-monitor blood sugars between office visits. ▼

11 Don't order thyroid function tests in asymptomatic patients. ▼

12 Don't continue opioid analgesia beyond the immediate postoperative period or other episode of acute, severe pain. ▼

13 Don't initiate opioids long-term for chronic pain until there has been a trial of available non-pharmacological treatments and adequate trials of non-opioid medications. ▼

Gæði er grunnstef

- Þekking og reynsla bætir gæði
- Vera forvitinn
- Spyrja gagnrýnina spurninga
- Er tiltekin rúttina eða ferlar réttir, góðir....
- Þróa gæði í eigin vinnu
- Þróa gæði í vinnuferlum
- Þróa gæði í heilbrigðisþjónustunni

Hugsið ykkur alltaf um hvað þið ætlið að gera við niðurstöðuna af rannsókn sem þið pantið og upplýsið sjúklinginn alltaf um hana

GANGI YKKUR VEL!!

