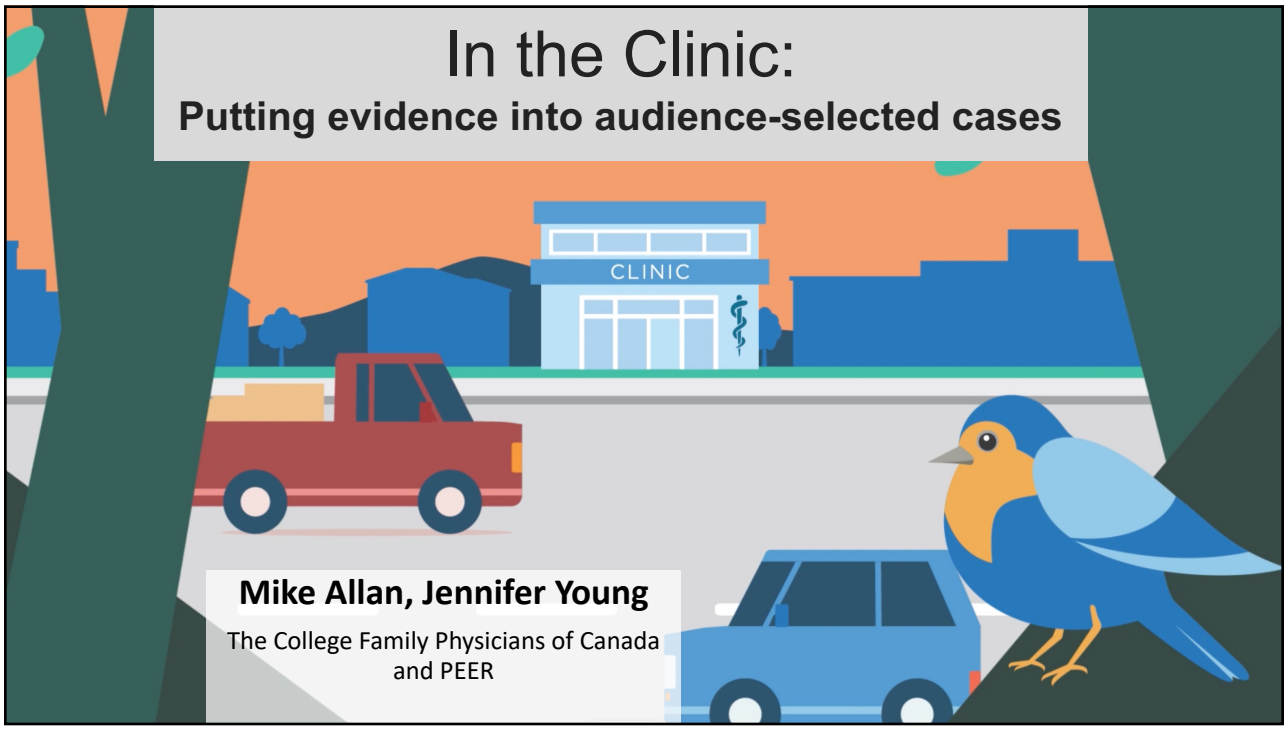


1

Faculty/Presenter Disclosure

- **Faculty/Presenter: G. Michael Allan**
- **Relationships with financial sponsors:**
  - **Any direct financial relationships including receipt of honoraria:** Chapters of CFPC (ACFP, NLCFP & NBCFP), HMO & Hospitals (Sharp Rees Stealy, Peterborough), Universities, CPD Departments (UBC), Conferences & Groups (Rx Files & BS Medicine).
  - **Memberships on advisory boards of speakers bureau:** N/A
  - **Patents for drugs or devices:** N/A
  - **Other:** CIHR, PRIHS – Funding for clinical trials,
  - **Pay:** CFPC – Employee (Previous U of A), Podcast (stipend)

PEER PATIENTS EXPERIENCE EVIDENCE RESEARCH

THE COLLEGE OF FAMILY PHYSICIANS OF CANADA | LE COLLÈGE DES MÉDECINS DE FAMILLE DU CANADA

2

Presenters: Jennifer Young

- Honoraria: Conference groups
- Consulting Fees: N/A
- Grants/Research Support:
- Patents: N/A
- Other: CFPC employee

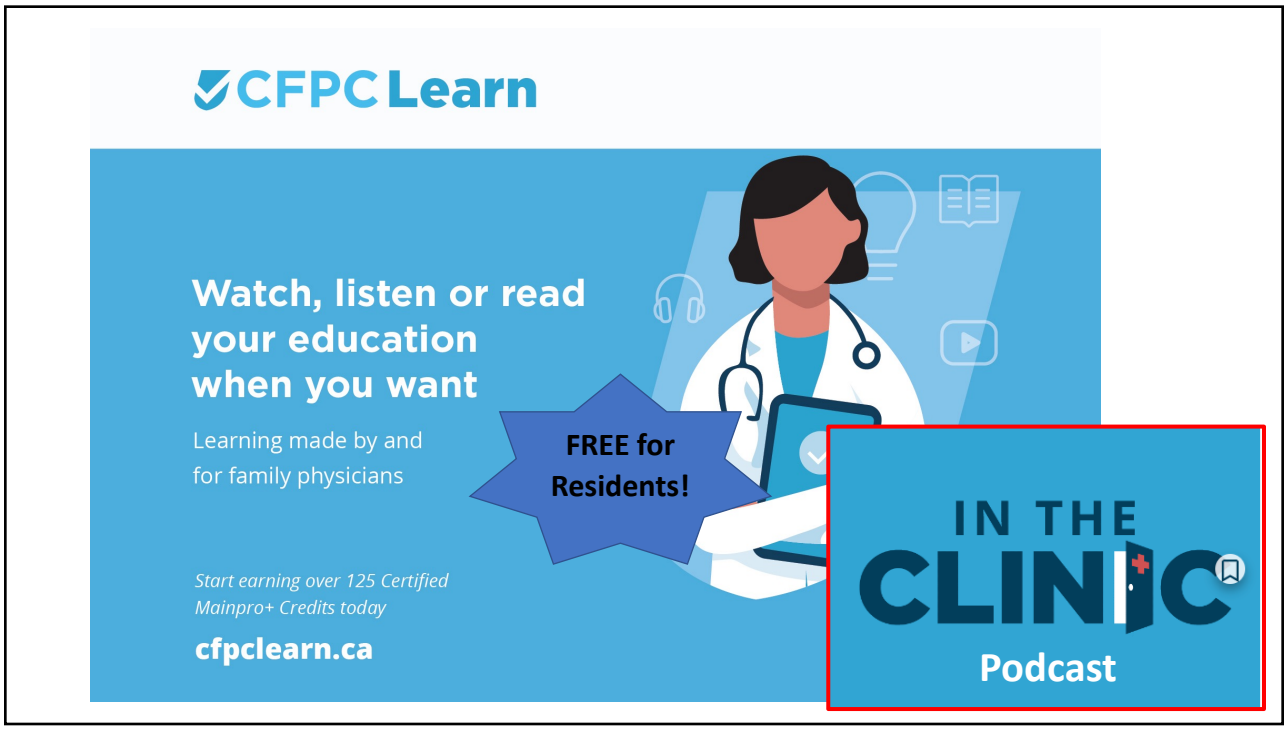
PEER Patients Experience Evidence Research

3

Objectives

1) Discuss common primary care presentations, in a case-based format, stimulating a single office visit.
2) Formulate patient centered plans for common primary care presentations.
3) Present tools and resources to assist shared decision-making

4



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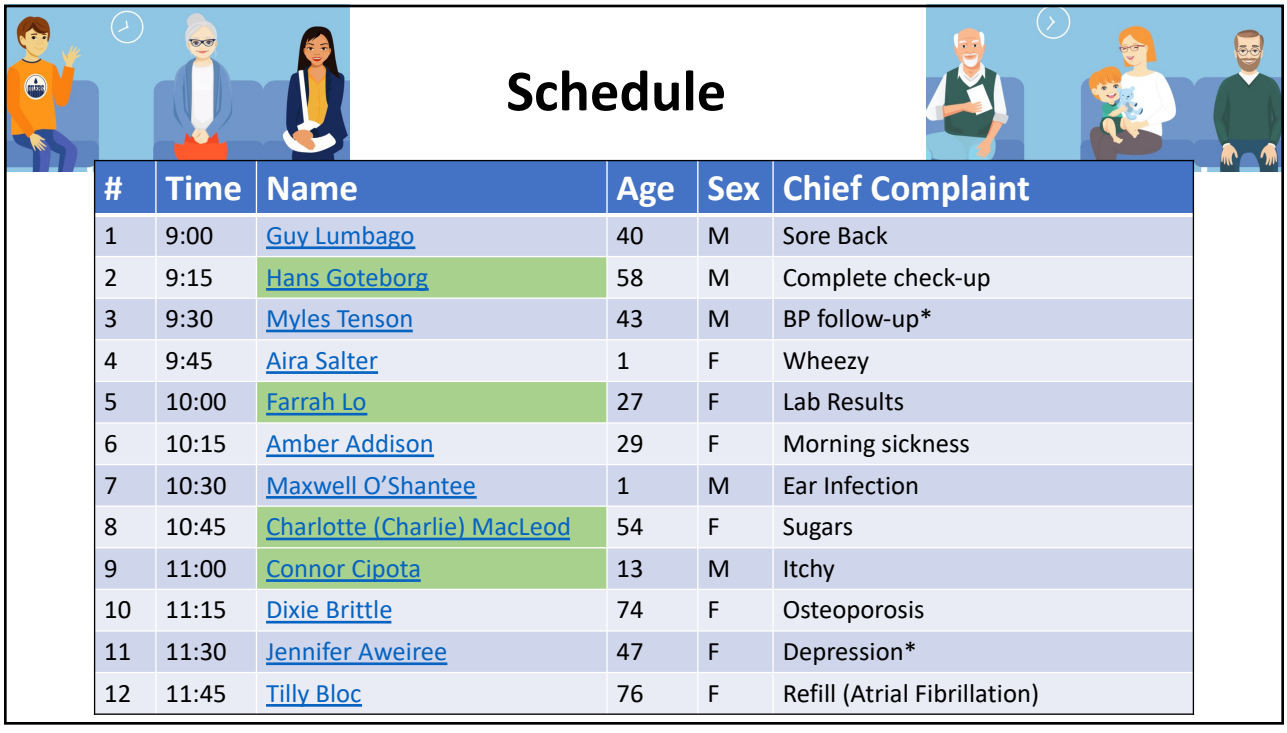


Schedule

#	Time	Name	Age	Sex	Chief Complaint
1	9:00	Guy Lumbago	40	M	Sore Back
2	9:15	Hans Goteborg	58	M	Complete check-up
3	9:30	Myles Tenson	43	M	BP follow-up*
4	9:45	Aira Salter	1	F	Wheezy
5	10:00	Farrah Lo	27	F	Lab Results
6	10:15	Amber Addison	29	F	Morning sickness
7	10:30	Maxwell O'Shantee	1	M	Ear Infection
8	10:45	Charlotte (Charlie) MacLeod	54	F	Sugars
9	11:00	Connor Cipota	13	M	Itchy
10	11:15	Dixie Brittle	74	F	Osteoporosis
11	11:30	Jennifer Aweiree	47	F	Depression*
12	11:45	Tilly Bloc	76	F	Refill (Atrial Fibrillation)

6

Hans Goteborg, 58

- You haven't seen Hans in 5 years.
- He has no particular symptoms, and his chronic smoker's cough has really settled down. He was 40 pack year smoker since his teen years.

I'm a new man! I quit smoking the wife is making me eat better. I am here for a checkup.

- Hans booked a regular appt so you decide to focus on cancer screening today.
- His father had prostate cancer at age 79 and his uncle had colon cancer at age 70.
- Family History of Prostate Cancer at age 79 is relevant to screening.

True

False

7

Hans Goteborg, 58

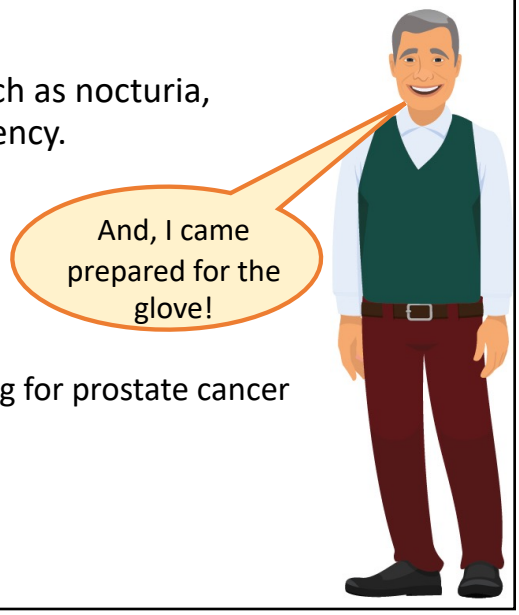
- The presence of prostate cancer increase with age.
  - >79years, 48-71% of men dying from other causes have been found to have incidental prostate cancer
- There is little guidance on what qualifies as relevant family history, but uptodate™ suggests first degree relative with Prostate cancer diagnosed <65 years of age.

- Family History of Prostate Cancer at age 79 is relevant to screening.
- True
- **False**

8

Hans Goteborg, 58

Hans denies lower urinary tract symptoms such as nocturia, urine hesitation, straining, dribbling, or frequency.



What are the recommended next steps in screening for prostate cancer

a) Prostate Specific Antigen (PSA)
b) Digital rectal exam (DRE)
c) PSA + DRE
d) Shared decision making

9

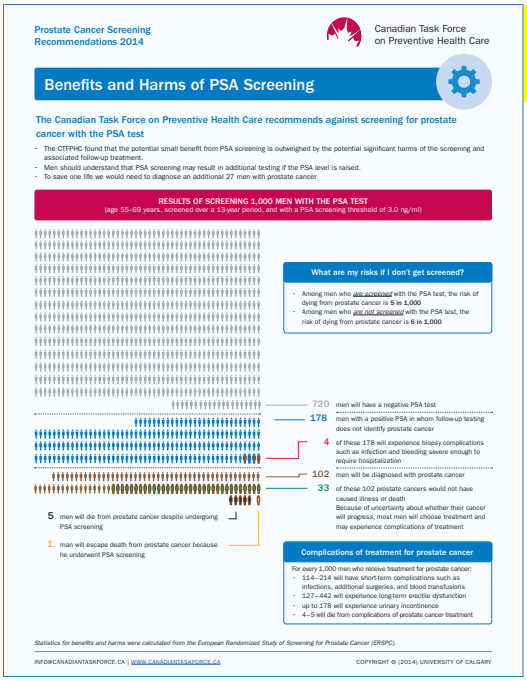
Hans Goteborg, 58

- Canadian Task Force recommends **against** prostate cancer screening with PSA in men 55-69
  - conditional recommendation - some men might choose screening, valuing the potential small benefit over the increased risks.
- If asks about PSA screening, a shared decision discussion of the risks and benefits is encouraged.
- A recommended tool to support the conversation is found at: https://canadiantaskforce.ca/wp-content/uploads/2016/12/CTFPHC_Prostate-Cancer_HarmsBenefits_FINAL.pdf

What are the recommended next step in screening for prostate cancer

a) Prostate Specific Antigen (PSA)
b) Digital rectal exam (DRE)
c) PSA + DRE
d) Shared decision making

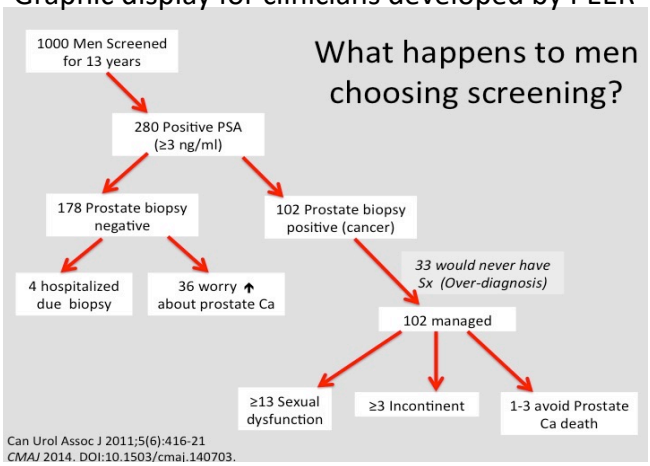
10



These two could be Pop-ups from the last slide

Hans Goteborg, 58

Graphic display for clinicians developed by PEER



https://canadiantaskforce.ca/wp-content/uploads/2016/12/CTFPHC_Prostate-Cancer_HarmsBenefits_FINAL.pdf

11

Hans Goteborg, 58

- Canadian Task Force recommends against PSA screening all men and <55 or ≥70, this is strong recommendation
  - Some limitations PSA issues include:
    - Positive PSA increases with age from ~5% at age 55 to ~17% at age 67
    - 65-70% of positive PSA at 3 -10 ng/mL are false positive (not cancer)
- While not specifically mentioned in Prostate Cancer Screening recommendations, the Canadian Task Force does state "the digital rectal exam (DRE) is not recommended". Some of DRE challenges include
  - Sensitivity of 0.51 (or 51%)
  - false positive is ~6% with one DRE but increases to ~18% after 4 DRE tests.

12

Hans Goteborg, 58

No thanks then. For me it is not worth the risk. Anything else?

With your history of smoking we might want to screen for lung cancer.

What are the recommended next steps in screening for lung cancer?

a) Sputum analysis
b) Rapid Conscious Bronchoscopy
c) Chest Xray
d) Low dose CT scan
d) Nothing

13

Hans Goteborg, 58

- Canadian Task Force recommends low dose CT (yearly x3) in high-risk patients
  - High-risk = 55-74 years with at least a 30 pack-year smoking history who currently smoke or quit less than 15 years ago.
- "Screening should ONLY be carried out in health care settings with expertise in early diagnosis and treatment of lung cancer"
  - access and specific criteria may vary by jurisdictions with local policy and resource availability
- Infographic to discuss risks/benefits of screening available at: https://canadiantaskforce.ca/tools-resources/lung-cancer-2/lung-cancer-for-patients/

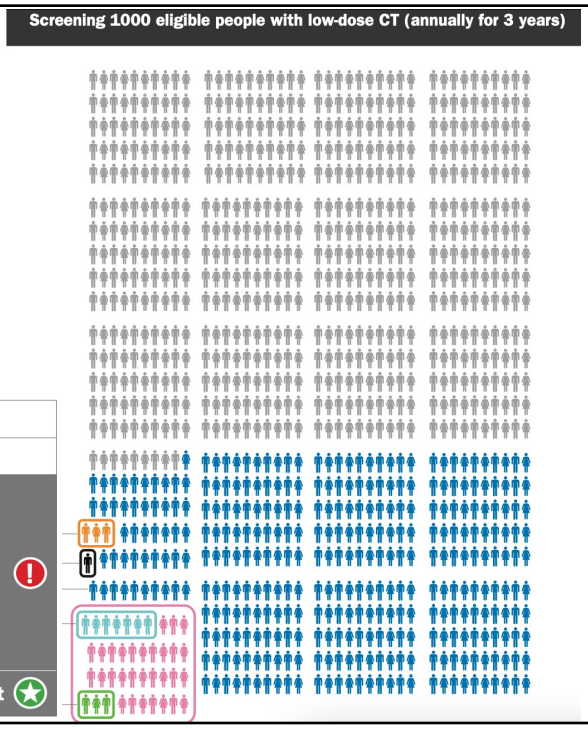
What are the recommended next steps in screening for lung cancer?

a) Sputum analysis
b) Rapid Conscious Bronchoscopy
c) Chest Xray
d) Low dose CT scan
e) Nothing

14

Decision tool Canadian Task Force

- https://canadiantaskforce.ca/wp-content/uploads/2016/05/ctfphclung-cancerharms-and-benefitsfinal.pdf



609	will have a negative low-dose CT scan result	
40	will be diagnosed with lung cancer	
351	will have a positive scan result and find out after further testing that they do not have cancer (false positive)	Harm
7	of the 40 diagnosed lung cancers would not have caused illness or death (overdiagnosis)	Harm
3	will have major complications from invasive follow-up tests	Harm
1	will die from invasive follow-up testing	Harm
3	fewer people will die from lung cancer (vs. when screening with chest x-ray)	Benefit

15

Hans Goteborg, 58

- Lung Cancer Mortality was not reduced by
  - Screening chest X-ray
  - More intense chest X-ray screening
  - Chest X-ray with cytology
- We made up Rapid Conscious Bronchoscopy and wouldn't wish that on anyone.

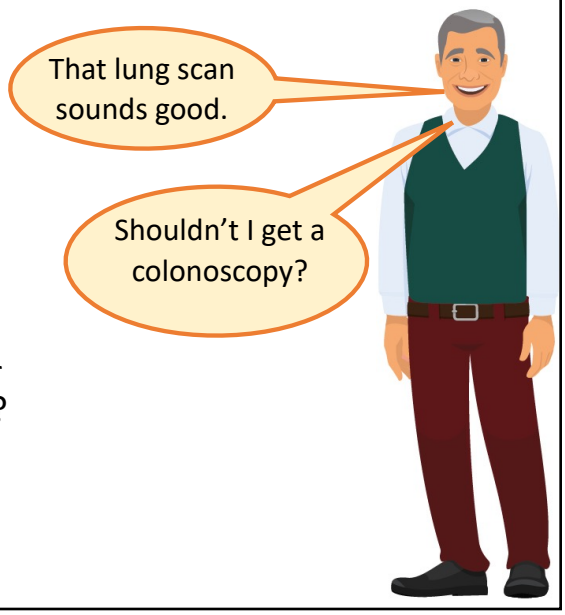
What are the recommended next steps in screening for lung cancer?

a) Sputum analysis
b) Rapid Conscious Bronchoscopy
c) Chest Xray
d) **Low dose CT scan**
e) Nothing

16

Hans Goteborg, 58

- As mentioned, his uncle had colon cancer diagnosed age 70 but there is no colon cancer history in his parents or siblings.
- He has no concerning symptoms with regular bowels, no weight loss, no melena nor night sweats.



What are the most appropriate colon cancer screening method for Hans (can pick 1 or 2)?

a) FIT FOBT
b) Barium Enema
c) Colonoscopy
d) Sigmoidoscopy

17

Hans Goteborg, 58

- Fecal occult blood testing (FOBT) every 2 years OR flexible sigmoidoscopy every 10 years is the preferred modality for average risk people aged 50-74.
  - Fecal Immunochemical Testing (FIT) is the version of the FOBT used in all provinces except Manitoba which still uses the Guiaic-based FOBT
- Follow-up on screening is challenging and reminders can help

What are the most appropriate colon cancer screening method for Hans (can pick 1 or 2)?

a) FIT FOBT
b) Barium Enema
c) Colonoscopy
d) Sigmoidoscopy

18

Hans Goteborg, 58

- Colonoscopy is recommended for patients with: previous colorectal cancer (CRC) or polyps, inflammatory bowel disease, signs/symptoms of CRC, history of CRC in one or more **first degree** relatives, or adults with hereditary syndromes predisposing to CRC (e.g. familial adenomatous polyposis, Lynch Syndrome).
- Mortality benefit found for all
- 2022 RCT - FIT vs colonoscopy vs risk adjusted screening:
  - Similar colorectal cancers, no mortality outcomes reported
- There are no RCTS of mortality benefit from Barium Enema

What are the most appropriate colon cancer screening method for Hans (can pick 1 or 2)?

a) FIT FOBT

b) Barium Enema

c) Colonoscopy

d) Sigmoidoscopy

19

Hans Goteborg, 58

Plan:

- 1000-man tool for PSA testing website link
- Low dose chest CT
- Order FIT kit and stress the importance of doing it within a week
  - Send a reminder to your office staff to call Hans in 4 weeks to check if completed
- Book a follow-up to discuss other *non-cancer* preventive health care and any relevant blood tests (including PSA if he decides to proceed)

20

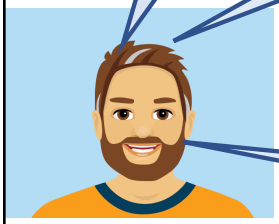
Connor Cipota, 13

Connor is on the rep hockey and plays/practices almost every day for the last 4 weeks.

His puffers help him skate!

My skin is getting worse like Dad's again. And mom won't let me play until we see you

He gets a red rash on his elbows, knees and ankles. Worse x2 weeks. Very itchy and can be scratched raw.



He may better the last couple of days.

Sid, Connor's Dad

MA

21

Connor Cipota, 13

Without seeing the rash yet, what is you most likely diagnosis

a) Psoriasis
b) Eczema
c) Scabies
d) Fungal Rash
e) Folliculitis

MA

22

Connor Cipota, 13

Without seeing the rash yet, what is you most likely diagnosis

a) Psoriasis
b) Eczema
c) Scabies
d) Fungal Rash
e) Folliculitis

Eczema (or atopic dermatitis)
Eczema prevalence is ~10-15%.

1) Asthma (puffers) strongly linked (association x2-7) with eczema (& allergies).
2) Dad has same: 70% of eczema has a family history & is relapsing condition.
3) Severe pruritic nature ~ active eczema, and sweating can exacerbate pruritis.
4) Location on elbows and knees. Could be psoriasis (extensor) or Eczema (more flexor - antecubital & popliteal fossa).

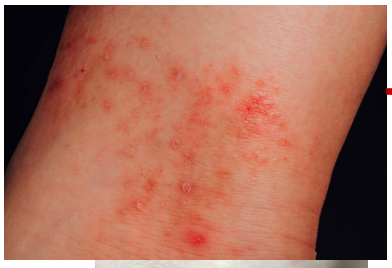
MA

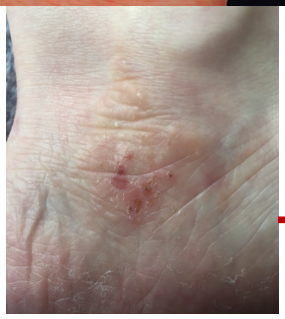
23

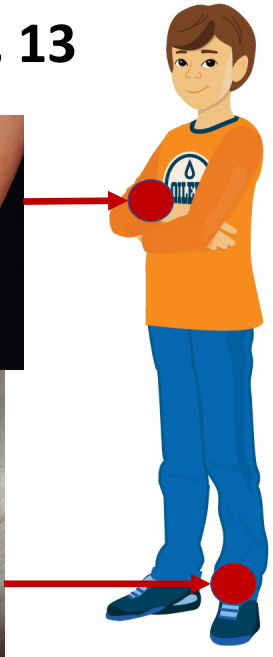
Exam (Objective)

Connor Cipota, 13

Connor removes his shirt, socks, shoes. He starts rubbing two of the patches.







His eczema is mostly on his antecubital fossa, popliteal fossa,& ankles, and a few small patches: ~6% of his body.

24

Connor Cipota, 13

Connor seems to have moderate eczema: pick all reasonable interventions

a) Baths
b) Emollients
c) Baths with Additives (e.g. Oatmeal)
d) Oral antihistamines
e) Bleach baths
f) Oral Corticosteroids (e.g. Prednisone)

25

Connor Cipota, 13

Connor seems to have moderate eczema: pick all reasonable interventions

a) Baths
b) Emollients
c) Baths with Additives (e.g. Oatmeal)
d) Oral antihistamines
e) Bleach baths
f) Oral Corticosteroids (e.g. Prednisone)

1-2 Baths daily, lukewarm, 5-10 minutes & soap free cleanser, pat dry

Emollients/moisturizers (esp after baths): thick creams/ointments (e.g. petroleum jelly)

Antihistamines: minimal/no evidence of effectiveness. Sedating (like diphenhydramine or hydroxyzine) may be used short-term for sleep disruptions due to severe pruritis.

Oral steroids used rarely, in very severe flares. Topicals steroids discussed next.

26

Connor Cipota, 13

-No RCTs of showers but studies suggests similar benefits.

-Bath Additives: (like oatmeal-based products) no additional benefits.

-Bleach baths: Inconsistent for improved eczema symptoms. Some still recommend them, esp to prevent recurrent infection.

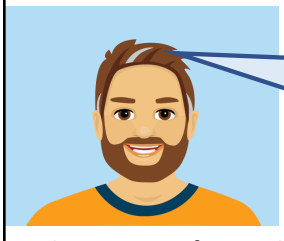
-Frequency: Meaningfully improved eczema - 58% if bath BID vs 15% 2x/week. BID also improved mean eczema scores more.

27

Connor Cipota, 13

Connor has quick showers after hockey but doesn't moisturize.
He has calamine lotion from mom but does not feel it helps
He also uses some Dad's old betamethasone sometimes.

Mom is worried Dad's cream is too strong for me



She is concerned there are too many steroids, with the puffers already.

Sid, Connor's Dad

28

Connor Cipota, 13

Please place each topical treatment in appropriate category on the below.

a) Betamethasone valerate 0.1%
b) Triamcinalone acetonide 0.1%
c) Tacrolimus 0.1% (non-steroid)
d) Hydrocortisone 2.5%
e) Clobetasol propionate 0.05%

Potency	Treatment
Super-high	
High	
Moderate	
Low	

29

Connor Cipota, 13

*Tacrolimus 0.1%: positioned as moderate-high potency

Potency	Treatment
Super-high	Clobetasol propionate 0.05%
High	Betamethasone valerate 0.1%
Moderate	Triamcinalone acetonide 0.1% *Tacrolimus 0.1% (non-steroid)* *
Low	Hydrocortisone 2.5%

Systematic Rev (20 RCTs): tacrolimus 0.1% is
- Superior to pimecrolimus 1%, low-potency corticosteroids, & tacromlimus 0.03%
- Equivalent to mid-potency corticosteroid.

30

Connor Cipota, 13

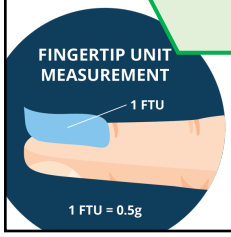
How Much:

A Fingertip Unit (FTU) = cream from a tube on palm side of the distal phalanx from crease to fingertip, ~0.5 grams.

That amount covers ~2% of the body.

2% = palmar surface with fingers of both hands.

Connor has eczema on ~6%, so he will need ~1.5g per application, or 3g for twice daily



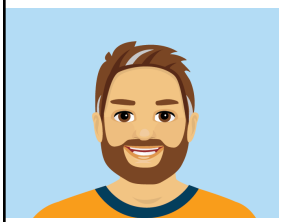
Ointments for dry skin & creams for wet skin.

31

Connor Cipota, 13

Plan:

- Two baths/day (or shower). No additives, mild soap only.
- Apply petroleum jelly (or thick cream) BID after baths (no additives)
- Betamethasone valerate 0.1% ointment BID, up to 2 weeks.
- Dispense 60gm [3gm/day x 14 days = 42 gm with some to spare].
- Return in two weeks time for reassessment.



Sid, Connor's Dad

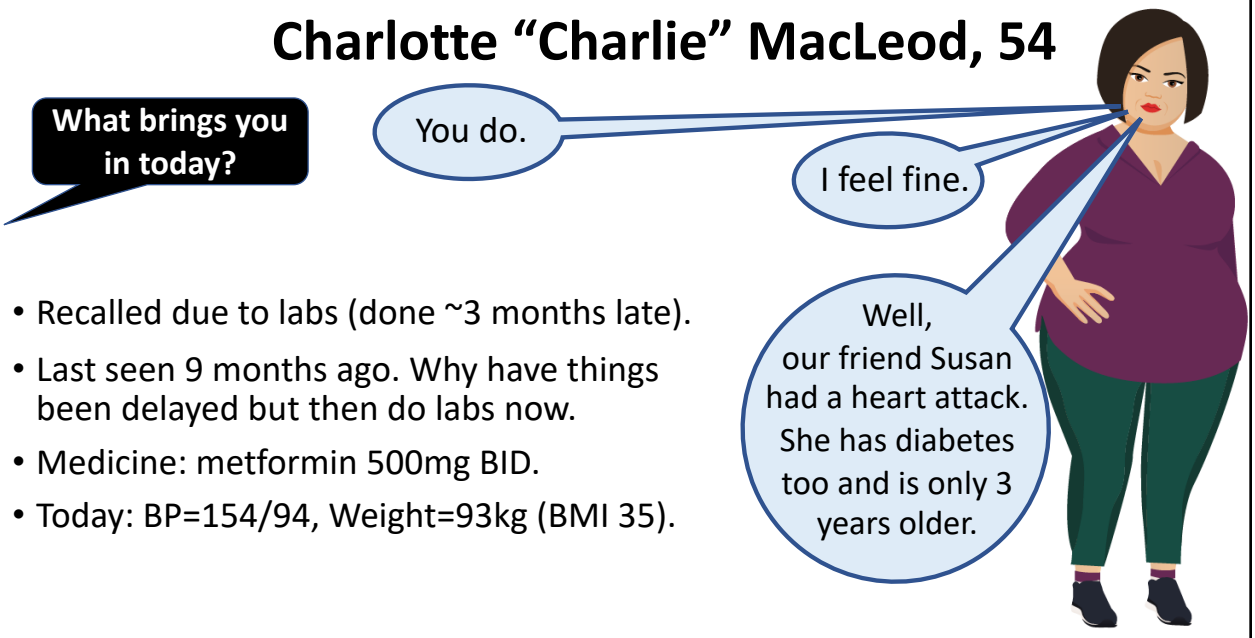
Dad's cream works and doesn't do that

Tacrolimus is non-steroidal & safer for thinner skin but can causes burning/stinging in 20-60% initially

32

JY

Charlotte "Charlie" MacLeod, 54



- Recalled due to labs (done ~3 months late).
- Last seen 9 months ago. Why have things been delayed but then do labs now.
- Medicine: metformin 500mg BID.
- Today: BP=154/94, Weight=93kg (BMI 35).

33

JY

Charlotte "Charlie" MacLeod, 54

Past History

- Dx 4 years ago at first screening: A1c=7.7, confirmed 7.5 three months later.
- She insisted on trying lifestyle for one year. A1c=7.9 after multiple visits and a dietary referral.
- Metformin started; max 500mg BID due to nausea. Her A1c was in the low 7's (e.g 7.3).
- Encouraged by family, Charlie tried naturopathic medicines (including apple cider vinegar and bitter melon). She did labs every 6 months but would not consider other meds.
- Ex-Smoker x 15 years.
- No history of coronary or renal disease but last 2 BPs were 146/88 and 142/92 with a note to check next visit.

34

JY

Charlotte “Charlie” MacLeod, 54

What patient-oriented outcome is Charlie most at risk for?

a) Blindness
b) Renal Failure
c) Death
d) Amputation
e) Severe Hypoglycemia

35

JY

Charlotte “Charlie” MacLeod, 54

- Diabetes is a leading cause of blindness or renal failure, but death or CVD are more common in diabetic patients.

- Markers like microalbuminuria or retinopathy changes are more common but may not be perceived by patients.

What patient-oriented outcome is Charlie most at risk for?

a) Blindness
b) Renal Failure
c) Death
d) Amputation
e) Severe Hypoglycemia

36

JY

Charlotte "Charlie" MacLeod, 54

- A 7 year study (50% with albuminuria): renal failure was 0.7% versus to death at 40% (half were CVD).
- 10-year ADVANCE study results: 0.9% had end-stage renal disease, 6.6% had blindness or photocoagulation, 21.6% died (43% from CVD), 8.3% had severe hypoglycemia and 21.3% had any major fatal/non-fatal CVD.
- In patients at higher amputation risk: at 10 years 12% had any amputation (toes or greater) versus 44% with a major CVD.
- Other studies like ACCORD and UKPDS find similar.
- **Bottom-Line: Death & CVD outcomes are the most likely serious outcome.**

37

Charlotte "Charlie" MacLeod, 54

Sorry to hear about Susan. It is more common in diabetes. Fortunately, there are things we can do.

My blood pressure and cholesterol are good, I think it's just the diabetes

3 primary interventions are lowering sugars, lowering blood pressure and lowering bad cholesterol (statins via cardiovascular risk).

- Please arrange these interventions in order of their effectiveness in reducing cardiovascular disease.

a) Sugar lowering
b) Blood pressure lowering
c) Lipid lowering (statins)

38

Charlotte "Charlie" MacLeod, 54

A diabetes diagnosis is all about sugar, interventions are not all about sugar.

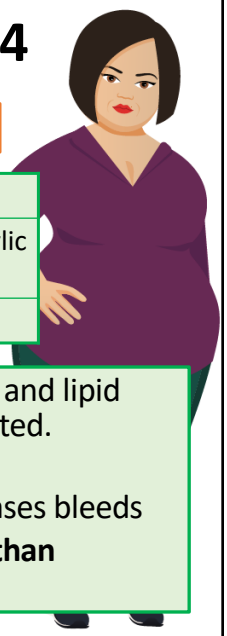
Approximate Relative Reduction Reduction in CVD for Patients with Diabetes				
Intervention	Blood pressure Lowering	Statin (Lipid) Therapy	Sugar Lowering	Acetylsalicylic Acid
Relative Risk Reduced	25-50%	25%	15%	0

- Please arrange these interventions in order of their effectiveness in reducing cardiovascular disease.

a) **Sugar lowering**
b) **Blood pressure lowering**
c) **Lipid lowering (statins)**

39

Charlotte "Charlie" MacLeod, 54



A diabetes diagnosis is all about sugar, interventions are not all about sugar.

Approximate Relative Reduction Reduction in CVD for Patients with Diabetes				
Intervention	Blood pressure Lowering	Statin (Lipid) Therapy	Sugar Lowering	Acetylsalicylic Acid
Relative Risk Reduced	25-50%	25%	15%	0

- In studies, statins were prescribed based on being diabetic, not lipid levels, and lipid levels were not targeted. Evidence for other lipid lowering agents very limited.
- For hypoglycemic agents, the benefit varies by drug class (see next slides).
- ASA has no or very little benefit in diabetic patients without CVD but increases bleeds
- **Bottom-Line: Using interventions with proven benefit is more important than surrogate marker targets. That should be our focus.**

40

Charlotte "Charlie" MacLeod, 54

- She is not convinced that she has elevated blood pressure

I feel fine

- Or should be using statins

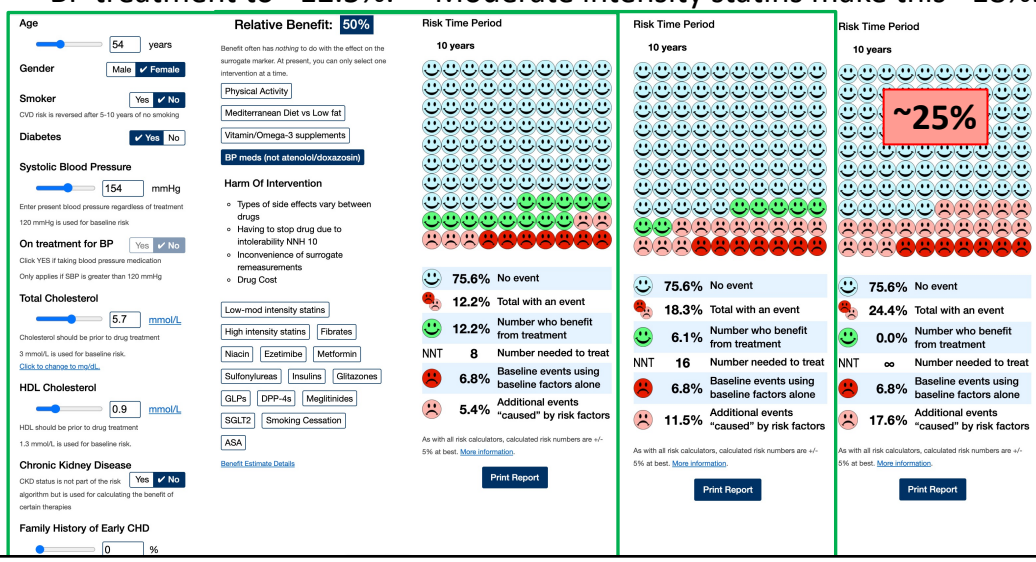
One of my friends said they made her feel terrible

- Using today's SBP (154), age (54), total cholesterol (5.7), and HDL (0.9) in the Best Science Medicine CVD Risk Calculator, her estimated CVD risk is ~25% in the 10 years.

41

Charlotte "Charlie" MacLeod, 54

BP treatment to ~12.5%. Moderate intensity statins make this ~18%.



42

JY

Charlotte "Charlie" MacLeod, 54

I had my mind made up that I was starting something for my sugars

Place each hypoglycemic class/medicine in a category based on the evidence for patient-oriented benefits.

TZD (pioglitazone)
DPP-4 (sitagliptin)
Sulphonylurea (gliclazide)
SGLT-2 (empagliflozin)
Acarbose
Metformin
Insulin
GLP-1 (liraglutide)

Evidence of Good/ Reasonable Benefits	Evidence of No/ Minimal Benefits

43

JY

Charlotte "Charlie" MacLeod, 54

Diabetes medicines came to market based on reduced blood sugar. Rosiglitazone (TZD) changed that when evidence suggested it worsened some CVD outcomes. Manufacturers now need to prove CVD safety (but not necessarily benefit).

Place each hypoglycemic class/medicine in a category based on the evidence for patient-oriented benefits.

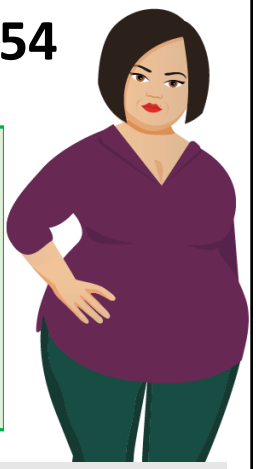
TZD (pioglitazone)
DPP-4 (sitagliptin)
Sulphonylurea (gliclazide)
SGLT-2 (empagliflozin)
Acarbose
Metformin
Insulin
GLP-1 (liraglutide)

Evidence of Good/ Reasonable Benefits	Evidence of No/ Minimal Benefits

44

JY

Charlotte "Charlie" MacLeod, 54



- Metformin, SGLT-2, GLP-1: relative risk reduction in CVD is around 15% (metformin less consistent: 0-30%).
- Pioglitazone: some inconsistent positive results but multiple harms like heart failure and fractures.
- Microvascular: the only consistent proven patient-oriented (hard) outcome for any specific agent is for SGLT-2 reducing renal failure.

Best hypoglycemia choice (with metformin 500 BID): SGLT-2 or GLP-1 medication. They are expensive (3 months: empagliflozin 10 or 25mg is ~$300; liraglutide 1.2mg is ~$650). In addition to reducing her A1C, either medicine will reduce Charlie's CVD risk from ~25% to ~21% (i.e., by ~4%).

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JY

Charlotte "Charlie" MacLeod, 54

- Plan:
  - You confirm Charlie has drug plan through work.
  - Empagliflozin 25mg, ½ tab QD x30 days with two refills.*
    - Advise: 5-10% risk of genital (e.g. yeast) infection x1 year.
  - Discuss BP monitoring. She'll purchase a home monitor.
    - Take two readings every AM & PM x7 days (total = 28 readings). Discard first day readings and average the last 6 days
  - Return in 4-6 weeks to review BP readings, assess tolerability of empagliflozin.
  - Set-up labs at next appt (including hypertension labs) and likely start hypertension treatment. Hopefully, a statin within the year.

* Studies show 10mg is as effective as 25mg. 25mg is only pennies more than 10mg per pill. Halving 25mg cuts the cost in half with no loss of effect.

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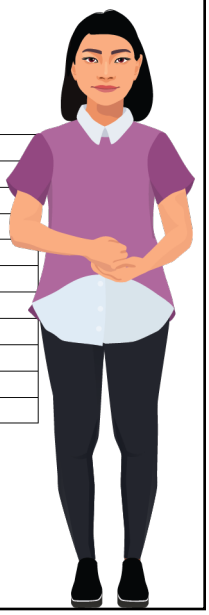
Farrah Lo, 27

Farrah comes in to follow up on recent bloodwork.

Two weeks ago, Farrah complained of feeling tired and low energy. Her depression screen was negative (mood and interest good).

Farrah normally enjoys regular biking and swimming but finds she has lower stamina and feels more winded over the last couple of months with exercise.

WBC	4.58	3.5-10.5x10^9/L
RBC	**3.30**	3.5-5.00 x 10^{12}/L
HgB	**103**	115-155 g/L
Hct	**0.344**	0.38-0.50
MCV	**77.7**	80-100
MCH	**22.1**	24-34
RDW	13.5	11.5-15.5%
Platelets	226	130-380 x 10^9/L
Ferritin	**4.1**	11-307 ug/L
TSH	0.75	0.4- 4.50 mIU/L
Beta-HCG urine	Negative	N/A



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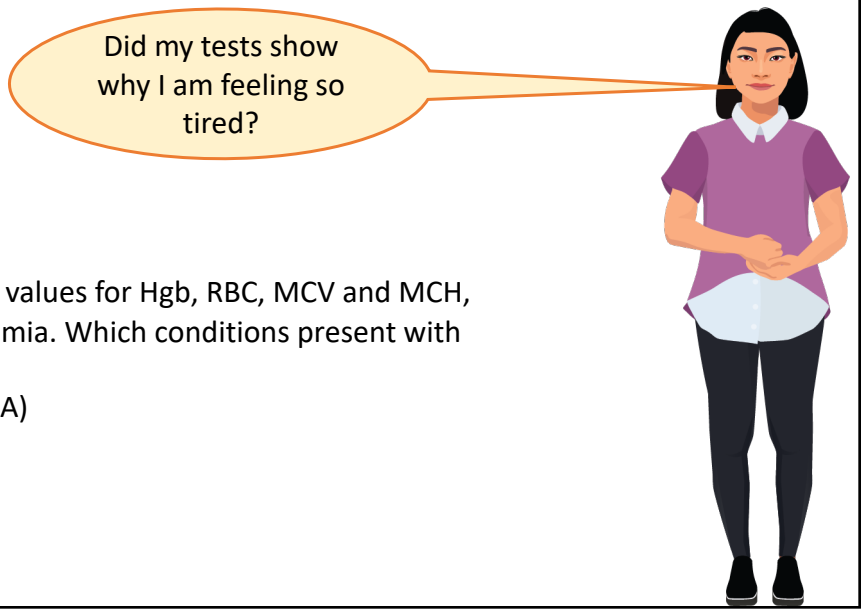
Farrah Lo, 27



Farrah's bloodwork shows low values for Hgb, RBC, MCV and MCH, consistent with microcytic anemia. Which conditions present with microcytic anemia?

a) Iron deficiency anemia (IDA)
b) Alpha Thalassemia minor
c) Vitamin B12 deficiency
d) All of the above
e) A and B only

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Farrah Lo, 27

- Vitamin B12 deficiency: macrocytic anemia with elevated MCV.
- Iron deficiency anemia and alpha thalassemia minor: both present with a microcytic picture.
- **RBC**: often elevated with thalassemia and reduced with iron deficiency.

Farrah's bloodwork shows low values for Hgb, RBC, MCV and MCH, consistent with microcytic anemia. Which conditions present with microcytic anemia?

a) Iron deficiency anemia (IDA)
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e) A and B only

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Farrah Lo, 27

- **Iron stores:** Often alpha thalassemia have elevated iron stores, while IDA presents with low stores.
  - Serum ferritin: diagnostic test of choice for iron deficiency.
  - Exact ferritin cut-offs may vary between guidelines but <30 ug/L suggests iron deficiency is likely. Simply, lower means more likely.

Farrah's bloodwork shows low values for Hgb, RBC, MCV and MCH, consistent with microcytic anemia. Which conditions present with microcytic anemia?

a) Iron deficiency anemia (IDA)
b) Alpha Thalassemia minor
c) Vitamin B12 deficiency
d) All of the above
e) A and B only

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JY

Can you describe your menstrual cycle? Is it regular?

Farrah Lo, 27

Farrah's history:

- PMH: unremarkable
- Meds: vitamin D 1000 IU daily
- Non-smoker, exercise 4-5x/wk
- Diet: well-balanced, includes meat
- 1-2 glasses of wine/wk
- GI: unremarkable, denies signs of bleeding
- FHx: no history of celiac disease, colon cancer, other GI disorders
- Vitals: BP 101/65, HR 52 bpm

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JY

Farrah Lo, 27

You diagnose Farrah with IDA.

In Canada at least 10% of menstruating females are estimated to have iron deficiency.

The menstrual losses are likely the reason for iron deficiency -- it is reasonable to start a therapeutic trial of iron.

The newer oral iron formulations (e.g. iron polysaccharide complex, or heme iron) are more effective and better tolerated than older ferrous salts for treating iron deficiency anemia.

a) True
b) False

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JY

Farrah Lo, 27

- Older iron salts: equivalent, and likely superior, to newer formulations. Ferrous salts ↑Hg up to 10-20 g/L more than newer formulations.
  - One in 5 more patients have IDA resolution with older salts.
  - 12-week trial, mainly female patients (mean 39y): ferrous fumarate ↑Hg more than iron polysaccharide (~28 vs 6g/L)
    - better serum ferritin, MCV and TSAT
- Newer salts more expensive : Iron polysaccharide (Feramax™) $35; generic iron salts $5-10 per month

The newer oral iron formulations (e.g. iron polysaccharide complex, or heme iron) are more effective and better tolerated than older ferrous salts for treating iron deficiency anemia.

a) True
b) False

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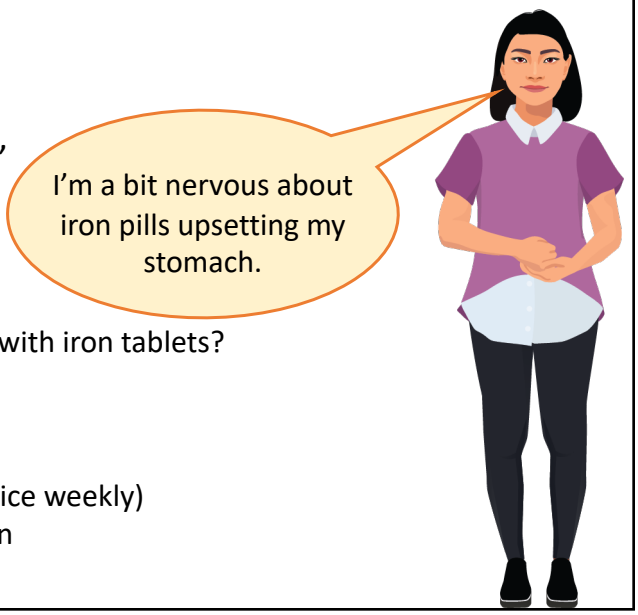
Farrah Lo, 27

You recommend Farrah start a ferrous salt since the newer formulations:

- more expensive
- not been shown to be better tolerated,
- may be inferior in resolving anemia



Which options can reduce risk of GI side effects with iron tablets? (select all that apply)

a) Take with food
b) Take lower doses
c) Take intermittently (e.g. every two days or twice weekly)
d) Taken a formulation with lower elemental iron
e) Take with antacid

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Farrah Lo, 27

- Taking iron pills with food: prevent GI SE but absorption may be reduced.
- Intermittent dosing: reduce adverse events (e.g., abdo pain) by up to 30%. Trade-off: slightly less improvement in Hg (<3 g/L) and ferritin (12ug/L).
- Lower elemental iron: less GI toxicity. Per tablet, Fe gluconate has the lowest (35mg) followed by Fe sulfate (60mg) and Fe fumarate (99mg).

Which options can reduce risk of GI side effects with iron tablets? (select all that apply)

a) Take with food
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d) Taken a formulation with lower elemental iron
e) Take with antacid

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Farrah Lo, 27

- Elderly pts: low iron doses (15mg) ↑Hgb similar to higher doses (150mg).
- Younger pts: low dose ↓ AE but did not improve Hg, ferritin as much as higher dose.
- Iron: best absorbed in an acidic environment. Antacids should not be given concurrently.

Which options can reduce risk of GI side effects with iron tablets? (select all that apply)

a) Take with food
b) Take lower doses
c) Take intermittently (e.g. every two days or twice weekly)
d) Taken a formulation with lower iron
e) Take with antacid

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Farrah Lo, 27

Vitamin C is often recommended with an iron tablet to increase iron absorption.

A recent RCT challenges this:
Randomized 440 patients with IDA
(97% female; mean age 38y, mean Hg 88g/L):

- Oral iron 100mg + Vitamin C 200mg OR
- Same iron alone; TID x 3months

No significant difference in Hgb or serum ferritin level between the two groups at 8 weeks. No difference in adverse effects or compliance.

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Farrah Lo, 27

Plan:

- Ferrous gluconate 300mg BID x 3 months.
- Counsel Farrah:
  - Take medication on an empty stomach, if possible.
  - Increase dietary intake of iron as tolerated
- You offer an appointment to review management of heavy menstrual cycle in 2-4 weeks. Farrah accepts.
  - Review anemia symptoms, tolerability of new iron tablets also.
- Lab requisition: CBC and ferritin in 3 months

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