

Prevention and Screening for Canadian adults in 2022

Dr Cleo Mavriplis MD, CCFP, FCFP

Adjunct professor

Department of Family Medicine

University of Ottawa

cmavriplis@bruyere.org



I have no pharmaceutical or financial
conflict of interest

Except I am passionate about prevention!



Objectives:

General

After this session:

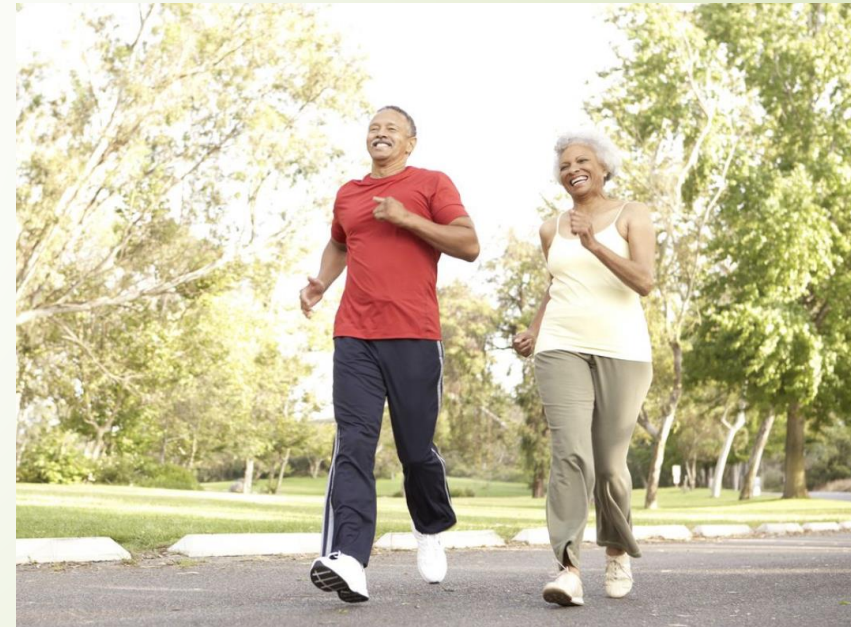
Promote prevention as an essential part of health care



Specific Objectives:

For a **well** adult female or male,
what does the **evidence** say about the:

- history
- physical exam
- screening tests
- counseling



<https://www.youtube.com/watch?v=8c7qTsVVxXw>



Summary at end



Question:

I have counselled
someone about:

- ▶ preventing disease
or
- ▶ taking a screening
test

YES/NO



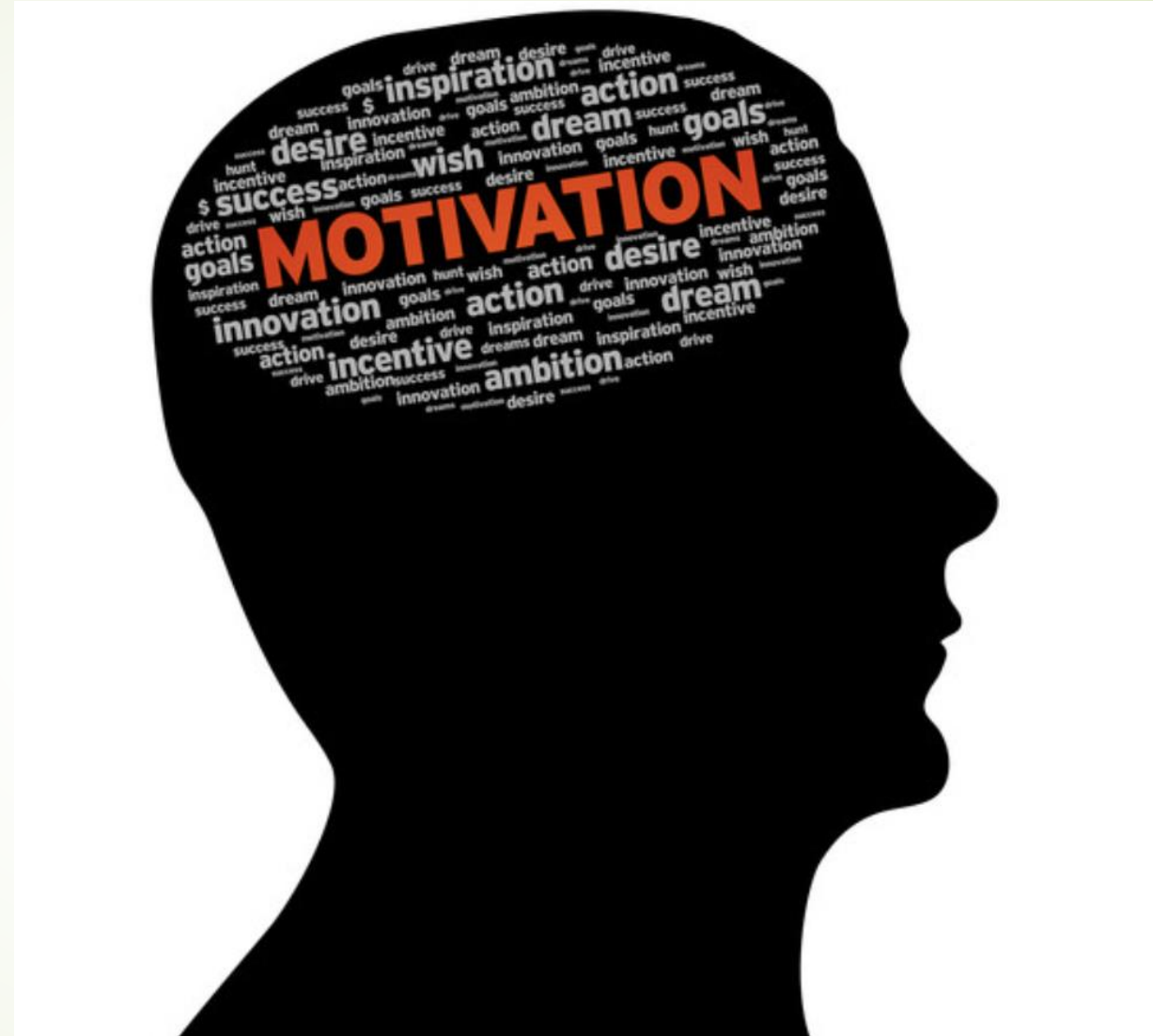
Question:

Which barriers did you encounter OR do you imagine encountering ?



Motivational interviewing:

- Key to helping people change
- Learn to do in 1-5 min
- Videos in references
- Small changes build confidence and success



Sources of information on Canadian preventive care guidelines:



**Canadian Task Force
on Preventive Health Care**

- www.canadiantaskforce.ca
- Provincial guidelines: [CCO](#)
- Other associations
(specialty and disease-specific)



Cancer Care Ontario



Conflict of interest in guidelines



Research shows

- that many guidelines from **disease specific** or **specialty organizations** have conflict of interest
- less from government bodies
- You may choose to use but be aware

<https://www.cmaj.ca/content/cmaj/192/23/E617.full.pdf>

<https://www.cfp.ca/content/66/4/235.1>

<https://www.cmaj.ca/content/191/11/E297>

<https://www.cmaj.ca/content/191/11/E297> "Clinical guidelines as marketing tools"

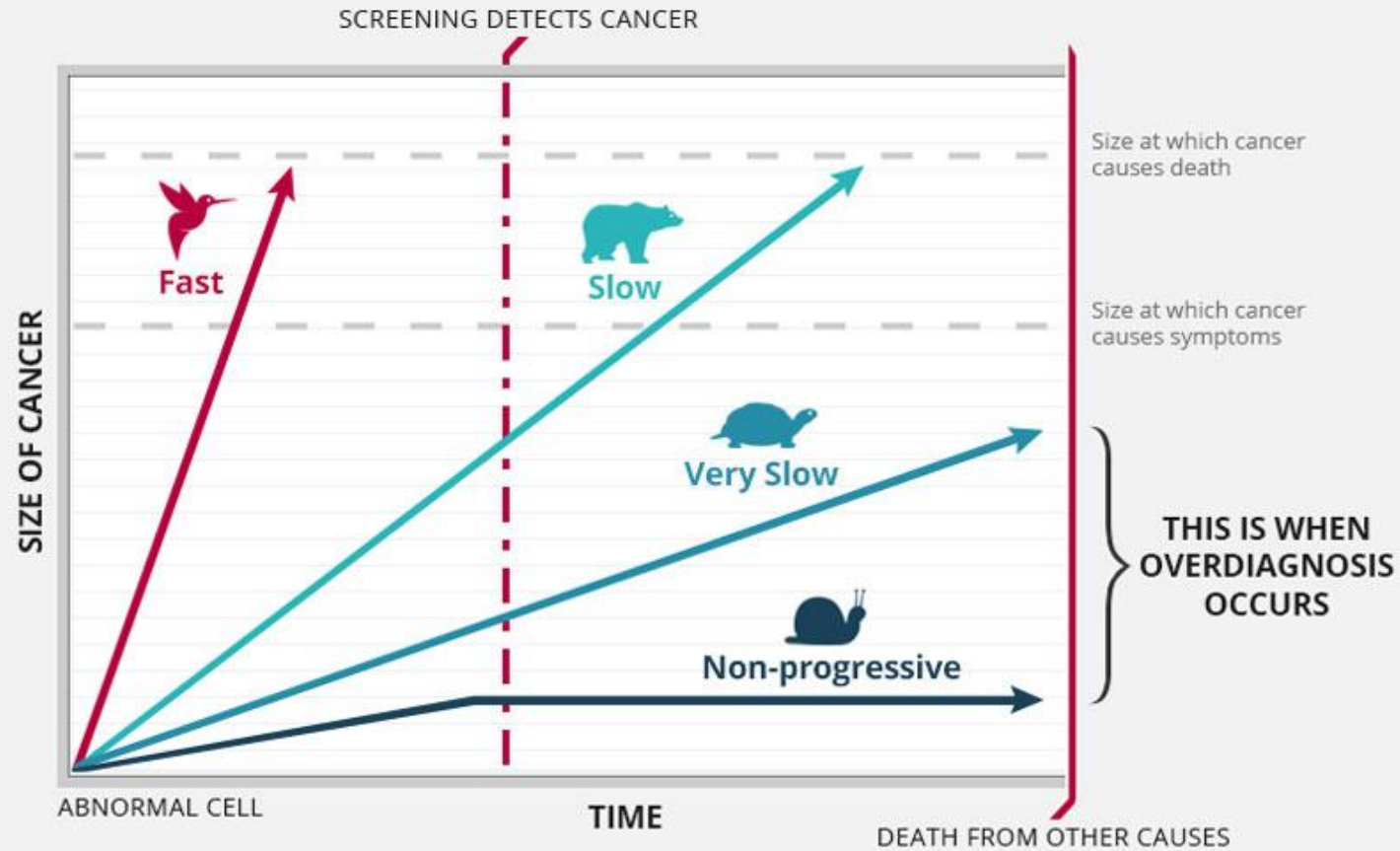


Cancer screening concepts

JAMA video explaining PSA testing benefits and harms

<https://www.youtube.com/watch?v=tYii98gcejA>

Overdiagnosis Occurs When screen-detected cancers are either *non-growing* or so *slow-growing* that they never would cause medical problems



3 age groups

Not perfect some overlap

➤ 18-50 yo ,

Remember at 40 yo to start
lipid screening

➤ 50-64 yo

➤ 65+



Ages for screening tests if no risks/symptoms

Test	Age range	Comments
Pap	25 to 69	Q 3yrs-Stop at 69 if 3 normal in last 10 yrs
GC/Chlamydia	Under 30	Q 1yr-If sexually active
Diabetes	Start at 18 or 40	18 :with calculator 40 :HBA1C or FBS
Lipids	40 (≥50 ♀)-75	Q 3-5yrs-Stop at 75 if no risk
Colorectal ca	50-74	Q 2 yrs
Breast ca	50-74	Q 2yrs
Lung cancer ca	55-74	Annually x 3, If qualify
AAA	65-80	ONCE: Men only
Osteoporosis-BDM	65+	Repeat depending on clinical status etc



Resources for group work

- www.canadiantaskforce.ca
- <https://www.cancercareontario.ca/en/guidelines-advice/cancer-continuum/screening/resources-healthcare-providers>
- <http://thehub.utoronto.ca/family/adult-preventive-health-care-2/>



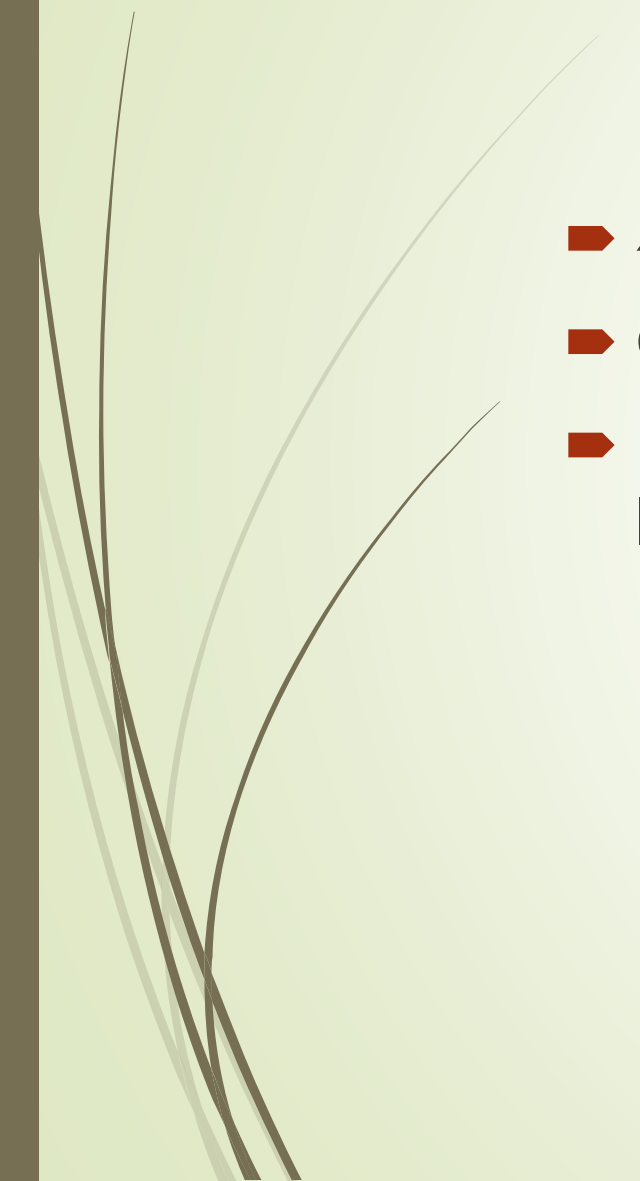
How to use the app

www.icanbewell.ca





Small group work

- ▶ 4 groups
 - ▶ Cases
 - ▶ Name a **reporter**, to bring back your answers to the large group
- 

Group work: healthy patient for preventive visit

Case	History Physical	Screening Counseling immunizations
Amanda: 33 yo cis female	Group 1	Group 2
Paul: 52 yo cis male	Group 3	Group 4
George: 72 yo cis male	Group 5	Group 6
Rick : 55 yo trans male		Group 7: Enter "provider" in the app Concentrate on: <ul style="list-style-type: none">• Breast and cervical cancer screening (tips for pap tests)• heart risk scoring

Amanda 33 yo female

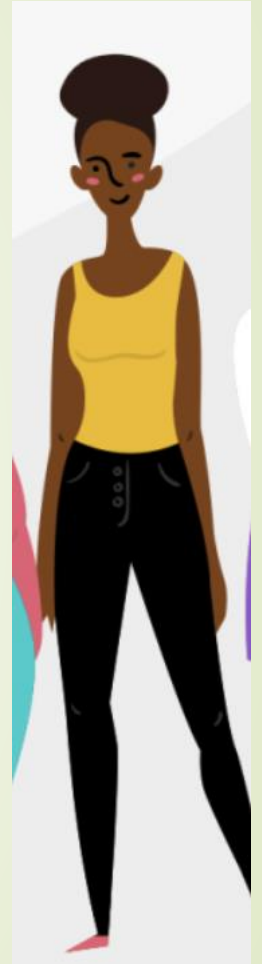
Group 1

History

Physical

Screening tests

Counseling





33 yo female: History :

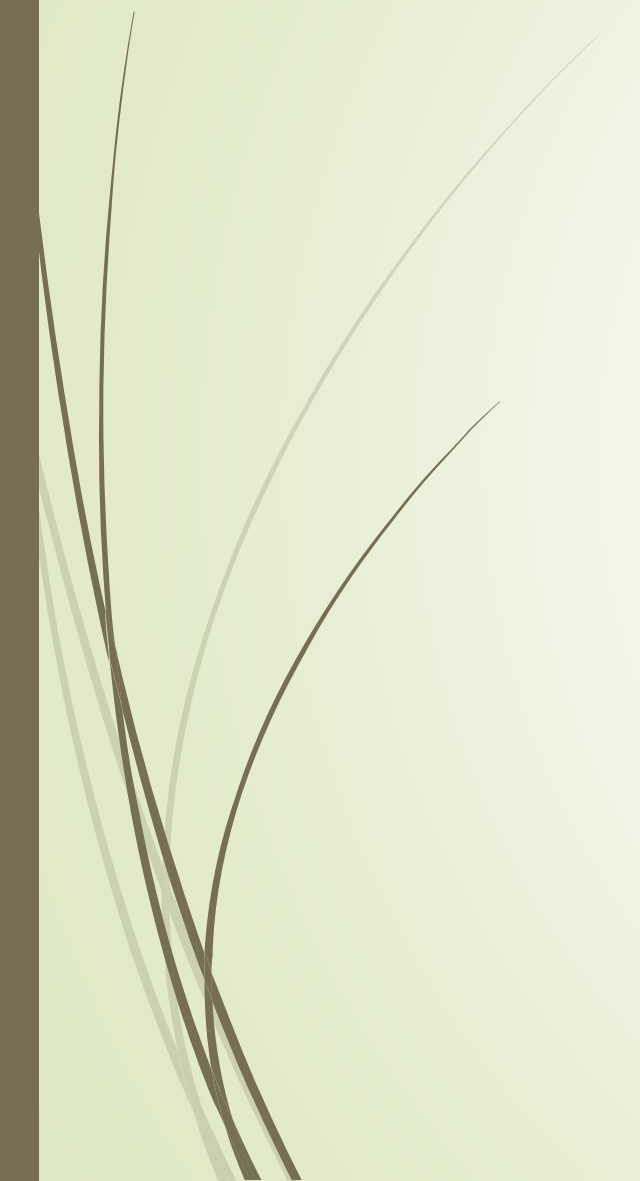
-Complaints, risks (family hx, occupation etc.)

-Lifestyle

- Physical activity : 150 min of moderate intensity a week
- Nutrition : learn to do in <3 min
- Smoking
- ETOH, drugs



33 yo : history cont'd

- **Sexual**/contraceptive/perinatal history
 - Family/relationships
 - Poverty
- 



Physical activity: new guidelines

CSEP 24 hour movement guidelines:
summary next slide

<https://csepguidelines.ca/guidelines/adults-18-64/>

<https://csepguidelines.ca/adult-toolkit/>

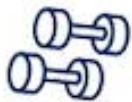


MOVE MORE

Add movement throughout your day, including a variety of types and intensities of physical activity:



At least 150 minutes of moderate to vigorous physical activity per week



Muscle strengthening activities at least twice a week



Several hours of light physical activity, including standing



REDUCE SEDENTARY TIME

Limit sedentary time to 8 hours or less:



No more than 3 hours of recreational screen time per day



Break up long periods of sitting as often as possible



SLEEP WELL

Set yourself up for 7 to 9 hours of good-quality sleep on a regular basis, with consistent bed and wake-up times.

Learn more at [csepguidelines.ca](https://www.csepguidelines.ca)

Replacing sedentary behaviour with additional physical activity and trading light physical activity for more moderate to vigorous physical activity will improve your overall health and well-being.

Eat a variety of healthy foods each day

Have plenty
of vegetables
and fruits

Eat protein
foods

Make water
your drink
of choice



Choose
whole grain
foods

Also:
Dietitians.ca

Even in small quantities, alcohol is not good for your health

Let's rethink the way we drink...

Science is evolving. So, we need to tell you something different than we have in the past. Recommendations regarding the quantities of alcohol need to change.

We now know that even small quantities of any alcohol can be harmful to your health. It doesn't matter whether it's red wine, white wine, beer or a shot of spirits. Your tolerance to alcohol doesn't make a difference, either.

Even in small quantities, drinking alcohol has consequences for everyone, whether you are male or female, younger or older. In fact, it's biological, it's physical.

That's why drinking less is better!

The risk of alcohol-caused consequences

increases with the number of drinks you have per week





There is a continuum of risk:

- **0 drinks per week** — Not drinking has benefits, such as better health, and better sleep.
- **2 standard drinks or less per week** — You are likely to avoid alcohol-related consequences for yourself or others at this level.
- **3–6 standard drinks per week** — Your risk of developing several types of **cancer**, including breast and colon cancer, increases at this level.
- **7 standard drinks or more per week** — Your risk of **heart disease or stroke** increases significantly at this level.



Low risk drinking guidelines:

<https://ccsa.ca/canadas-guidance-alcohol-and-health>

Risk tables <https://ccsa.ca/sites/default/files/2022-08/CCSA-LRDG-Lifetime-risk-of-alcohol-attributable-death-and-disability-en.pdf>



Poverty screening

- ▶ “Do you ever have difficulty making ends meet at the end of the month?”

https://portal.cfpc.ca/resourcesdocs/uploadedFiles/CPD/Poverty_flow-Tool-Final-2016v4-Ontario.pdf

Resources for helping patients: call 211, multidisciplinary teams, list of community resources



Physical Exam for a 33 yo

- ▶ BP, weight, BMI, waist circumference
- ▶ Don't forget :
pertinent physical exam relating to any risks, family history, personal history.
- ▶ In women: not necessary to do a bimanual pelvic exam with the pap if all normal



CHEP guidelines: Canadian Hypertension Education Program

- ▶ **BP < 140/90** if non Automated office BP
BUT CHEP recommends you do:
- ▶ Automated office bp or home BP series
Average < 135/85

https://guidelines.hypertension.ca/wp-content/uploads/2019/06/Diagnostic_Algorithm_2018-online.jpg



What screening tests for a 33 yo male
or female?





Screening tests 18-50 yo :

STIs:

(sources: PHAC and CTFPHC)

- Offer HIV testing to all adults
- **New: Chlamydia-GC testing annually under 30 if sexually active**
- STI testing if at risk (know risk factors, see app)

<https://www.canada.ca/en/public-health/services/hiv-aids/hiv-screening-testing-guide.html>

<https://canadiantaskforce.ca/guidelines/published-guidelines/chlamydia-and-gonorrhea/>



Cervical cancer screening

- Pap

Ontario has been starting at 21, moving to 25

- Changing to HPV testing every 5 yrs soon,

- [Cancer care Ontario guideline](#)

Screening for Diabetes:

With HBA1C or FBS

1. Canadian Task Force (CTF): use tool: FINRISC or CANRISK, **best evidence**
2. Canadian Diabetes Assoc (CDA):
 - a) Screen every 3 years at 40 and above
 - b) Screen earlier if risk factors or if calculator indicates

References:

- <https://canadiantaskforce.ca/guidelines/published-guidelines/type-2-diabetes/>
- Online calculator CANRISK: <https://canrisk.diabetes.ca/>
- <http://guidelines.diabetes.ca/screening>

Diabetes screening tool

Type 2 Diabetes Risk Calculator for Patients²

1. How old are you?

- 18-44 years (0 POINTS)
- 45-54 years (2 POINTS)
- 55-64 years (3 POINTS)
- 65 years and older (4 POINTS)

2. What is your body-mass index (BMI) category? - (See Appendix 1 for a BMI chart.)

- Normal (0 POINTS)
- Overweight (1 POINT)
- Obese (3 POINTS)

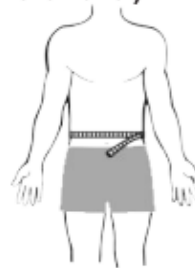
3. What is your waist circumference? Waist circumference is measured below the ribs (usually at the level of the navel).

MEN

- Less than 94 cm (less than ~37 inches) (0 POINTS)
- 94-102 cm (~37-40 inches) (3 POINTS)
- More than 102 cm (~more than 40 inches) (4 POINTS)

WOMEN

- Less than 80 cm (less than ~31 inches) (0 POINTS)
- 80-88 cm (~31-35 inches) (3 POINTS)
- More than 88 cm (~more than 35 inches) (4 POINTS)



4. Are you physically active for more than 30 minutes every day? This includes physical activity during work, leisure, or your regular daily routine.

- Yes (0 POINTS)
- No (2 POINTS)

5. How often do you eat vegetables and fruits?

- Every day (0 POINTS)
- Not every day (1 POINT)

6. Have you ever taken medication for high blood pressure on a regular basis?

- No (0 POINTS)
- Yes (2 POINTS)

7. Have you ever been found to have high blood glucose (e.g. in a health examination, during an illness, during pregnancy)?

- No (0 POINTS)
- Yes (5 POINTS)

8. Have any members of your immediate family or other relatives been diagnosed with diabetes (type 1 or type 2)? This question applies to blood relatives only.

- No (0 POINTS)
- Yes: grandparent, aunt, uncle, or first cousin (but not own parent, brother, sister or child) (3 POINTS)
- Yes: parent, brother, sister, or own child (5 POINTS)

..... Continue to page 2

Screening for hyperlipidemia

Age to start screening :

- Simplified lipid guidelines: 40 yo for men, 50 or menopause for women
- Can CVS Soc: 40 yo men, 40 yo women
- Both earlier if hi risk

Risks: HTN, DM, fam hx, CKD, etc.. See guidelines

References:

<https://www.cfp.ca/content/cfp/61/10/857.full.pdf>

[https://www.onlinecjc.ca/article/S0828-282X\(16\)30732-2/pdf](https://www.onlinecjc.ca/article/S0828-282X(16)30732-2/pdf)

Screening tests :circled <50 yo

Test	Age range	Comments
Pap	25 to 69	Q 3yrs-Stop at 69 if 3 normal in last 10 yrs
GC/Chlamydia	Under 30	Q 1yr-If sexually active
Diabetes	Start at 18 or 40	18 :with calculator 40 :HBA1C or FBS
Lipids	40 (≥50 ♀)-75	Q 3-5yrs-Stop at 75 if no risk
Colorectal ca	50-74	Q 2 yrs
Breast ca	50-74	Q 2yrs
Lung cancer ca	55-74	Annually x 3, If qualify
AAA	65-80	ONCE: Men only
Osteoporosis-BDM	65+	Repeat depending on clinical status etc



Tests not needed in asymptomatic , healthy patients

- ▶ CBC
- ▶ TSH: CTF don't screen if asymptomatic
- ▶ Creatinine
- ▶ Electrolytes



Counseling

- Lifestyle
- Sun exposure
- Supplements
 - Calcium
 - Vit D
 - Women: Folic acid: 0.4 to 1 mg 3mos before and after conception or always

Reference:

[https://www.jogc.com/article/S1701-2163\(15\)30230-9/pdf](https://www.jogc.com/article/S1701-2163(15)30230-9/pdf)

<https://www.canada.ca/en/public-health/services/pregnancy/folic-acid.html>



Immunizations for adults

The Ontario Immunization schedule

The following schedule assumes the patient has been vaccinated in childhood

COVID vaccination

- **Td** (Tetanus-diphtheria) every 10 years
- **Tdap** (Tetanus, diphtheria, acellular pertussis or whooping cough) **once ever**
- **Influenza**: recommended for all adults yearly. (re: high risk groups see the Ontario schedule)
- **HPV**: recommended for all females and males from ages 9 to 26, but safe above 26, currently given in high school
- **Measles Mumps Rubella**: advised that most adults should have **2 doses**
- **Pneumococcal, varicella, meningococcal** are recommended for some high risk groups see the CANImmunize app or Ontario schedule

Paul 52 yo male

Group 2

History

Physical


Screening tests

Counseling

Immunization



**I'M NOT
52!
I'M 21
WITH 31 YEARS
EXPERIENCE**




52 yo

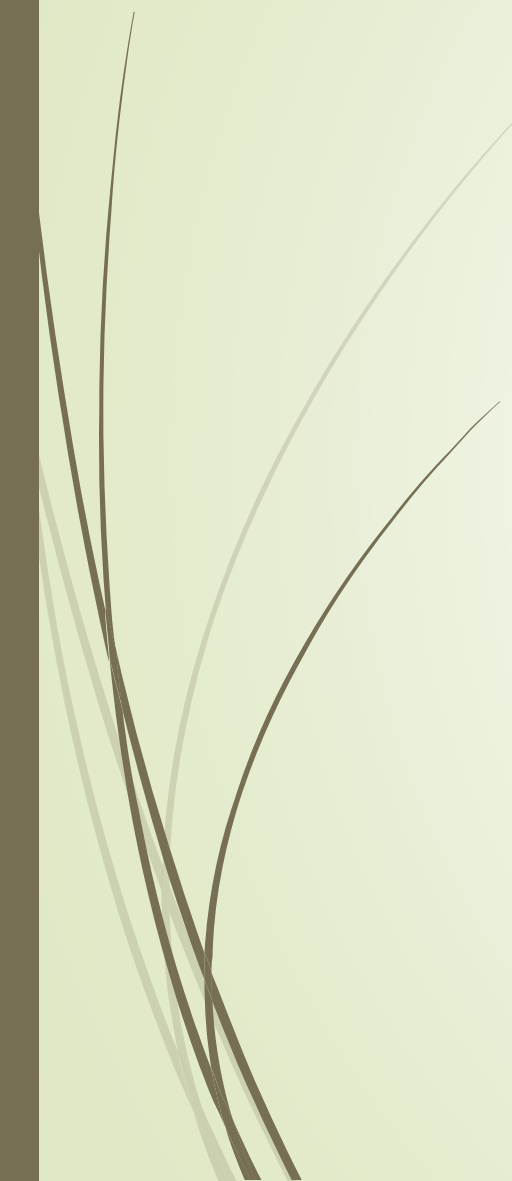
What do you add? (50-65 age group)

Life cycle :

- chronic disease more prevalent
- many cancer screening tests start at 50



Online tool to determine
cardiovascular risk or age?





Cardiovascular risk score or CVS age

Use patient-centered and visual tools

<https://cvdcalculator.com/>

Ref: re quitting smoking and decrease in cvs risk
(5yrs after quitting cvs risk back to non-smoker level)

<https://pubmed.ncbi.nlm.nih.gov/9889444/>



Prostate cancer screening

- Canadian task force (2014): Do not screen with PSA.
- Canadian Urological Association (2017) Offer screening, shared-decision making
- USPSTF (2018) : confirmed Canadian Task Force , shared decision making: leaning towards not screening

References

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

<https://www.cua.org/themes/web/assets/files/4888.pdf>

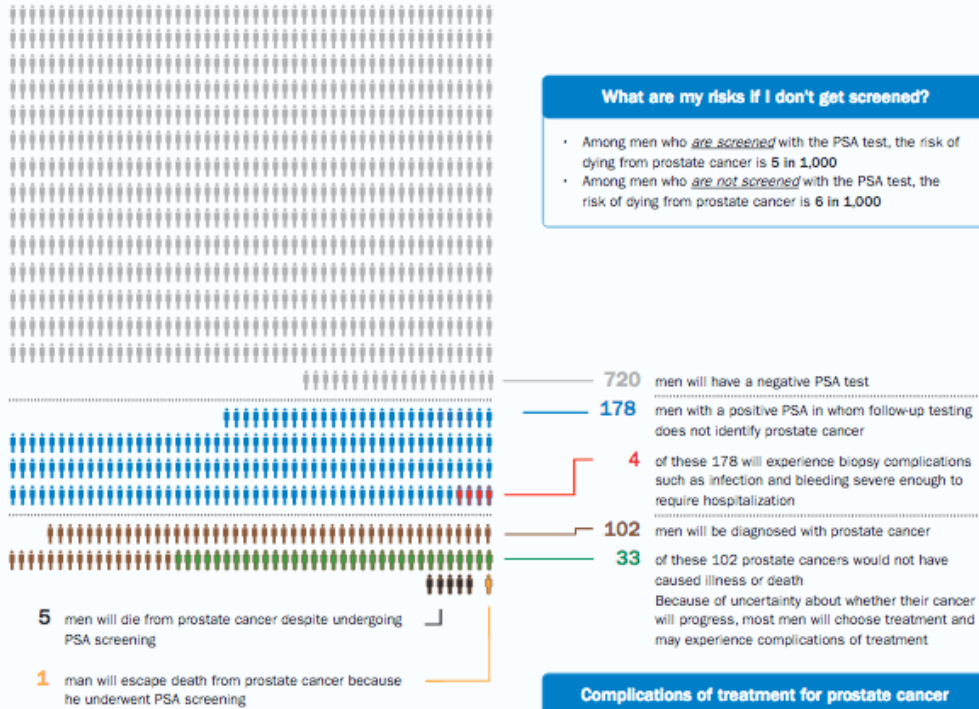
Benefits and Harms of PSA Screening



The Canadian Task Force on Preventive Health Care recommends against screening for prostate cancer with the PSA test

- The CTFPHC found that the potential small benefit from PSA screening is outweighed by the potential significant harms of the screening and associated follow-up treatment.
- Men should understand that PSA screening may result in additional testing if the PSA level is raised.
- To save one life we would need to diagnose an additional 27 men with prostate cancer

RESULTS OF SCREENING 1,000 MEN WITH THE PSA TEST (age 55–69 years, screened over a 13-year period, and with a PSA screening threshold of 3.0 ng/ml)



What are my risks if I don't get screened?

- Among men who *are screened* with the PSA test, the risk of dying from prostate cancer is **5 in 1,000**
- Among men who *are not screened* with the PSA test, the risk of dying from prostate cancer is **6 in 1,000**

Complications of treatment for prostate cancer

- For every 1,000 men who receive treatment for prostate cancer:
- 114–214 will have short-term complications such as infections, additional surgeries, and blood transfusions
 - 127–442 will experience long-term erectile dysfunction
 - up to 178 will experience urinary incontinence
 - 4–5 will die from complications of prostate cancer treatment



Screening for colorectal cancer

- ▶ Age 50-75 :
FIT q 2 yrs,
- ▶ Colonoscopy ?
 - ▶ in Canada: not recommended (no RCTs 1/2000 perforation risk)
 - ▶ For some high risk patients: family history of polyposis, colon ca, IBD etc.

Reference: <https://canadiantaskforce.ca/wp-content/uploads/2016/05/ctfphccolorectal-cancerrecommendation-tablefinal160121-1.pdf>



Screening for lung cancer

CTFPHC recommends:

- Adults aged **55-74** years
- at least a **30 pack-year** smoking history
- who currently smoke or **quit less than 15 years ago**
- recommend annual screening with LDCT **up to three** consecutive times
- **Screening should ONLY be carried out in health care settings with expertise in early diagnosis and treatment of lung cancer.**

<https://canadiantaskforce.ca/guidelines/published-guidelines/lung-cancer/>



Screening for lung cancer

- 4 sites in Ontario (Ottawa is one), will expand
- Smoking cessation program while going through the process
- High mortality as discovered late: RCT showed benefit

Reference:

<https://www.cancercareontario.ca/en/guidelines-advice/cancer-continuum/screening/lung-cancer-screening-information/referrals>



WOMEN 50-74 YO SCREENING FOR BREAST CA

Official recommendation of the CTFPHC:

- Mammography at 50-74 yo q 2-3 yrs
- “Very low certainty evidence”
- Self-exam and clinical exam in asymptomatic pts not recommended but...
- Shared decision-making very important
- HI-risk screening:
<https://www.cancercareontario.ca/sites/ccocancercare/files/assets/OBSPHighRiskForm.pdf>



Controversy: screening for breast ca between 40 and 50

- ▶ CTFPHC says no
- ▶ Radiology group and some say yes: no RCTs yet

Calcium and Vit D : source Osteoporosis.ca

AGE	CALCIUM	VITAMIN D
4 to 8	1000 mg	600 IU
9 to 18	1300 mg	600 IU
19 to 50	1000 mg	400 - 1000 IU
50+	1200 mg	800 - 2000 IU

Be aware that there are studies showing cardiovascular risk with increased calcium supplements and questioning their usefulness in preventing osteoporosis. Most calcium should be through food, some recommend supplements should not be above 500 mg a day

Screening test : circled 50-65 age group

Test	Age range	Comments
Pap	25 to 69	Q 3yrs-Stop at 69 if 3 normal in last 10 yrs
GC/Chlamydia	Under 30	Q 1yr-If sexually active
Diabetes	Start at 18 or 40	18 :with calculator 40 :HBA1C or FBS
Lipids	40 (?50 ♀)-75	Q 3-5yrs-Stop at 75 if no risk
Colorectal ca	50-74	Q 2 yrs
Breast ca	50-74	Q 2yrs
Lung cancer ca	55-74	Annually x 3, If qualify
AAA	65-80	ONCE: Men only
Osteoporosis-BDM	65+	Repeat depending on clinical status etc

George 72 yo male

Groupe 3


History

Physical

Screening tests

Counseling





72 yo

➤ History

- Same as younger: lifestyle, substances, smoking etc.
- Advance care planning
- Falls : ask every year (patients don't mention)
- Driving
- Immunization

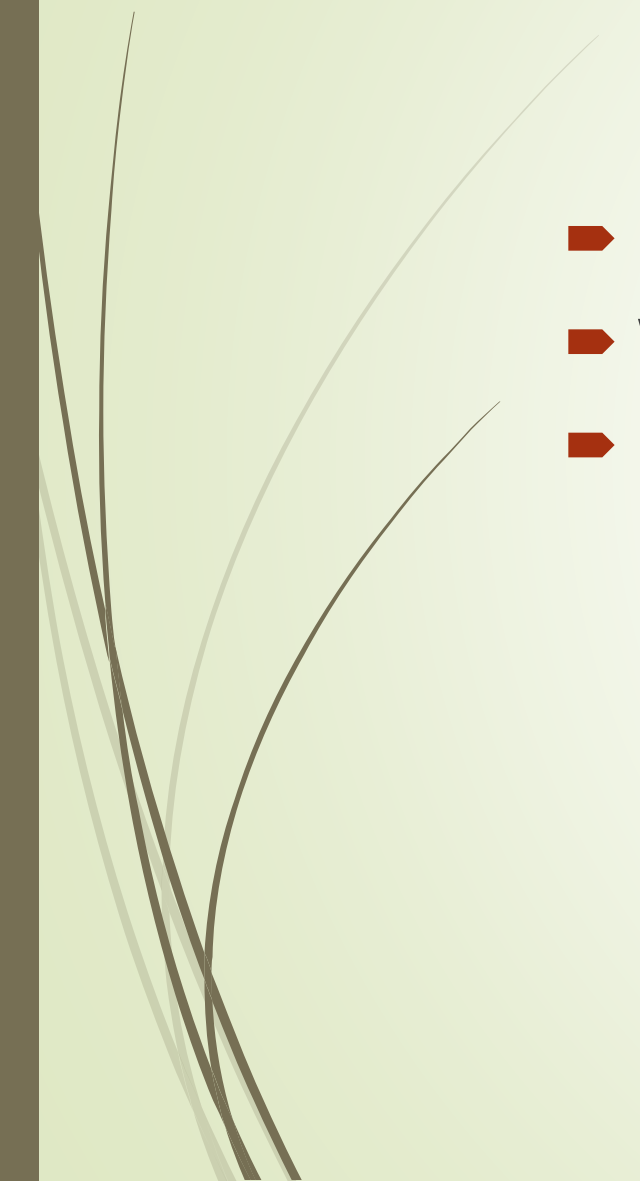
References

<https://www.advancecareplanning.ca/>

<https://www.cfp.ca/content/cfp/62/9/717.full.pdf>



Physical examination

- Depends on their risks, co-morbidities, medications etc.
 - Watch how they walk, sit
 - Frailty
- 

George 72 yo (and his wife)


What investigations would you order ?

➤ for male only :

- abdo U/S for AAA (screen men 65-80 with abdo U/S x1) (CTF)
- PSA : discuss, not recommended

➤ for female only:

- mammogram (50-74),
- pap (25-69), stop at 69 yo if 3x normal in last 10 yrs, if not do pap until 3 normal in last 10 yrs),



Who do we screen for cognitive impairment?

Canadian task force recommendation





Couple in their 70s

Any other screening?

- FALLS
- BP, height, weight, BMI




Screening tests

- ▶ **Lipids:** if healthy , no pertinent medications
 - ▶ no evidence on testing after 75yo
- ▶ **Bone density measurement:** 65+ everyone, younger if risks
 - ▶ Note 2010 Osteoporosis Canada recommendation old, may be changing
 - ▶ https://osteoporosis.ca/wp-content/uploads/Quick_Reference_Guide_October_2010.pdf

Immunization as adults age

- ▶ **COVID**
- ▶ **Influenza** yearly
- ▶ **Td** : every 10 years,
 - ▶ **Tdap** once in life or if cocooning for new grandchild for instance
- ▶ **Zoster vaccine**
 - ▶ AGE 50+ :Shingrix recommended, not covered at this age in most provinces
 - ▶ AGE 65-70 yo :Shingrix covered in Ontario
- ▶ **Pneumococcal**
PNEU-P-23 advised for all immunocompetent, repeat once in 5 years only if low immunity.



Rick 55 yo trans male

- Breast cancer screening:
- Cervical cancer screening: **tips**
- Heart risk scoring:

Screening tests: age 65+ and when to stop

Test	Age range	Comments
Pap	25 to 69	Q 3yrs-Stop at 69 if 3 normal in last 10 yrs
GC/Chlamydia	Under 30	Q 1yr-If sexually active
Diabetes	Start at 18 or 40	18 :with calculator 40 :HBA1C or FBS
Lipids	40 (?50 ♀)-75	Q 3-5yrs-Stop at 75 if no risk
Colorectal ca	50-74	Q 2 yrs
Breast ca	50-74	Q 2yrs
Lung cancer ca	55-74	Annually x 3, If qualify
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Key messages

- ▶ Lifestyle counseling makes a difference, learn how to do it effectively <5min
- ▶ Where to get your info for guidelines: CMAJ , and CFP for fam docs

For asymptomatic patient, no risks:

- ▶ **18-49 yo:** safe sex, sti, fam planning, etoh, smoking, drugs, bp, wt, waist, pap, dm, lipids+heart risk score at 40
- ▶ **50-64 yo:** same+ colorectal , lung ca?, women: breast, men: no PSA (know the ages for the different screening tests, see slides)
- ▶ **65+:** continue above screening tests until ages to stop and
 - Falls, advance care planning, BMD, men: AAA 65-80
- ▶ **Immunizations:** COVID, Td q 10yrs, Tdap once, MMRx2, HPV; Influenza all ages; 50 yo: offer Shingrix; 65-70 Shingrix covered in Ontario; Pneu23 at 65

Ages for screening tests if no risks/symptoms

Test	Age range	Comments
Pap	25 to 69	Q 3yrs-Stop at 69 if 3 normal in last 10 yrs
GC/Chlamydia	Under 30	Q 1yr-If sexually active
Diabetes	Start at 18 or 40	18 :with calculator 40 :HBA1C or FBS
Lipids	40 (≥50 ♀)-75	Q 3-5yrs-Stop at 75 if no risk
Colorectal ca	50-74	Q 2 yrs
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Questions?

cleomavriplis@sympatico.ca

cmavriplis@bruyere.org





Motivational interviewing resources

1. Favourite motivational interviewing videos:

Engaging (starting the conversation)

- ▶ <https://www.youtube.com/watch?v=bTRRNWrwRCo>

Problem solving

- ▶ <https://www.youtube.com/watch?v=dm-rJJPCuTE>

Putting it all together

- ▶ <https://www.youtube.com/watch?v=URiKA7CKtfc>

- ▶ Many more online

2. Small book :Motivational Interviewing in Health Care: Helping Patients Change Behavior –by Rollnick and Miller, great concepts, still need videos



Videos

PSA video USPSTF

<https://www.youtube.com/watch?v=tYii98gcejA>

Video about screening tests

<https://www.youtube.com/watch?v=8c7qTsVVxXw>

Video about benefits of exercise for patients by Dr Mike

<https://www.reframehealthlab.com/23-and-12-hours/>



Resources-Bibliography

- <http://thehub.utoronto.ca/family/adult-preventive-health-care-2/>
- Approach to preventive care in the elderly:
<https://www.cfp.ca/content/cfp/62/9/717.full.pdf>
- College of Family Physicians of Canada checklist
<https://www.cfp.ca/content/66/4/270/tab-cfplus>



References cont'd

- Ref: Evidence re HPV testing :
<https://www.cmaj.ca/content/194/17/E613>
<https://www.cfp.ca/content/68/2/90>
- Creating good habits: “Atomic Habits” by James Clear
- Practitioner’s role in implementing varying guidelines
<https://www.cfp.ca/content/66/4/235.1>
- Ref: re quitting smoking and decrease in cvs risk
<https://pubmed.ncbi.nlm.nih.gov/9889444/>



Immunization resources

- ▶ Ontario schedule

https://www.health.gov.on.ca/en/pro/programs/immunization/docs/Publicly_Funded_ImmunizationSchedule.pdf

- ▶ CANimmunize app

https://learn.canimmunize.ca/en/knowledge-centre?_ga=2.131844559.1181271455.1630581531-1690460115.1630581531

- ▶ NACI:

<https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci.html>

BMI: : reference values

Canadian guidelines for body weight classification in adults using BMI

Classification	BMI * category (kg/m ²)	Risk of developing health problems
Underweight	<18.5	Increased
Healthy weight	18.5-24.9	Least
Overweight	25.0-29.9	Increased
Obesity	≥30.0	
Class I	30.0-34.9	High
Class II	35.0-39.9	Very High
Class III	≥40.0	Extremely High

BMI, body mass index.

Adapted from reference 74

* BMI values are age and gender independent, and may not be correct for all ethnic populations.

Reference :

<http://guidelines.diabetes.ca/cpg/chapter17#sec2>

Waist circumference: reference values

Ethnic-specific values for waist circumference (WC)

Country or ethnic group	Central obesity as defined by WC	
	Men	Women
Europid *	≥94 cm	≥80 cm
South Asian, Chinese, Japanese	≥90 cm	≥80 cm
South and Central American	Use South Asian cutoff points until more specific data are available.	
Sub-Saharan African	Use Europid cutoff points until more specific data are available.	
Eastern Mediterranean and Middle Eastern (Arab)	Use Europid cutoff points until more specific data are available.	

Adapted from reference 11

*NCEP-ATP III guidelines (9,78) and Health Canada (79) define central obesity as WC values ≥102 cm in men and ≥88 cm in women.

Reference : <http://guidelines.diabetes.ca/cpg/chapter17#sec2>