


Risk assessment of menopause



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Quality of life Assessment in menopause

- **Greene Climacteric Scale,**
- **Women's Health Questionnaire,**
- **Menopause Rating Scale**
- **Utian Quality of Life Scale.**
- **Woman's health questionnaire (WHQ)**



Body mass index
Marital dimension
Economical dimension
Age
Educational level
Working status
Duration of menopause
Parity
Race



Hypertension

Diabetes

**Cardiovascular
disease**

Anemia

Menopause

Hypothyroidism

Osteoporosis

Dementia

Depression

Malignancies

Dear Lord,

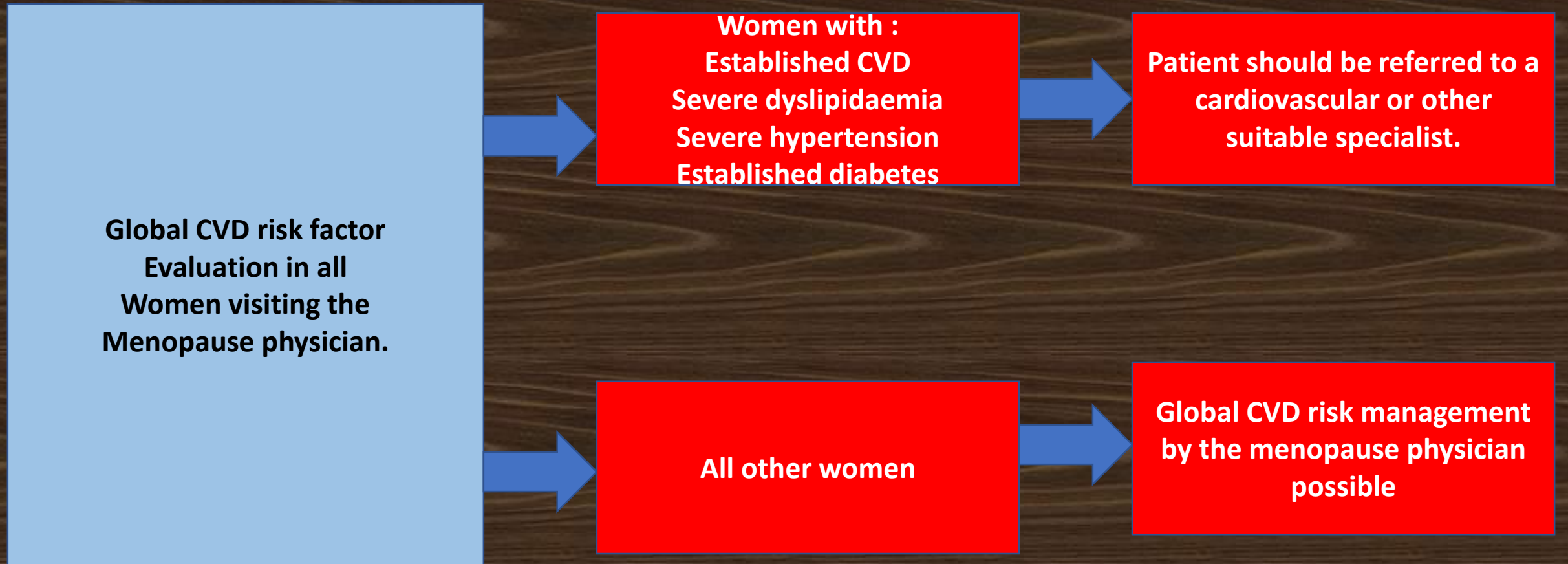
So far today I am doing alright.

I have not been grumpy, nasty, or psycho towards others. I have not whined, complained, or cursed. I have not eaten unhealthy fattening foods, nor indulged in glass after glass of wine. I have not craved chocolates.



But I will be getting out of bed in a minute, and I think that I will really need your help then.

Cardiovascular disease



Who should be assessed?

All women in menopause clinic.

What should be assessed?

Age,BP>Total plasma cholesterol,smoking.

Other imp.information

**H/O CVS disease,OB Gyn history, age at menopause
Body weight,waist circumference,Diet, alcohol cons.
Physical fitness,fasting plasma LDL cholesterol**

Additional parametres.

**Fasting plasma glucose
75g oral GTT
Fasting HDL
Fasting triglycerides**



1st Olympic team from independent India

1948



Indo-Pak war



Framingham





Framingham Heart Study celebrates 70 years of heart discovery

Launched in 1948 by the National, Heart, Lung, and Blood Institute (NHLBI) and now a joint project of NHLBI and Boston University, the long term observational study has been responsible for much of what we now know about risk factors for heart disease, the leading cause of death in the United States.

Wilkinson, a plumber Joined the study when he was 30

Left carotid artery was 80%blocked 6 years ago



Started cutting on potatoes,gravy, and steak and salt and took more fruits and vegetables and exercising

Block came to manageable levels

He now thanks the study

Framingham Point Score Calculator: Estimate of 10-Year CHD Risk for Women

Age	Points	Age	Points	Age	Points
20-34	-7	50-54	6	65-69	12
35-39	-3	55-59	8	70-74	14
40-44	0	60-64	10	75-79	16
45-49	3				

Points _____

Total cholesterol (mg per dL)	Age 20-39	Age 40-49	Age 50-59	Age 60-69	Age 70-79
< 160	0	0	0	0	0
160-199	4	3	2	1	1
200-239	8	6	4	2	1
240-279	11	8	5	3	2
≥ 280	13	10	7	4	2

Points _____

Smoking	Age 20-39	Age 40-49	Age 50-59	Age 60-69	Age 70-79
Nonsmoker	0	0	0	0	0
Smoker	9	7	4	2	1

Points _____

HDL (mg per dL)	Points
≥ 60	-1
50-59	0
40-49	1
< 40	2

Points _____

Systolic BP (mm Hg)	If untreated	If treated
< 120	0	0
120-129	1	3
130-139	2	4
140-159	3	5
≥ 160	4	6

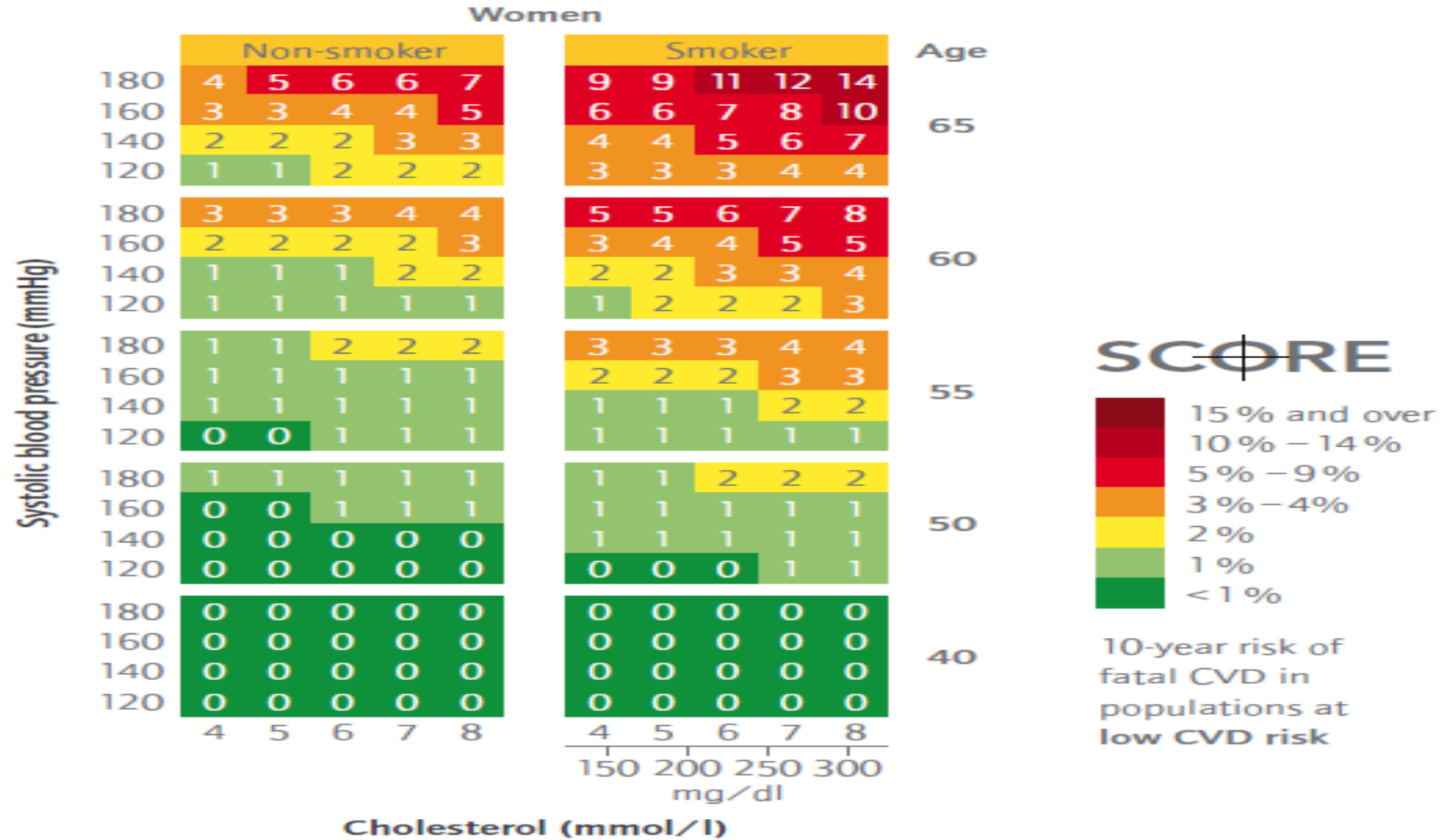
Points _____

Total points _____

Point total	10-year risk (%)	Point total	10-year risk (%)	Point total	10-year risk (%)
<9	<1	14	2	20	11
9	1	15	3	21	14
10	1	16	4	22	17
11	1	17	5	23	22
12	1	18	6	24	27
13	2	19	8	≥25	≥30

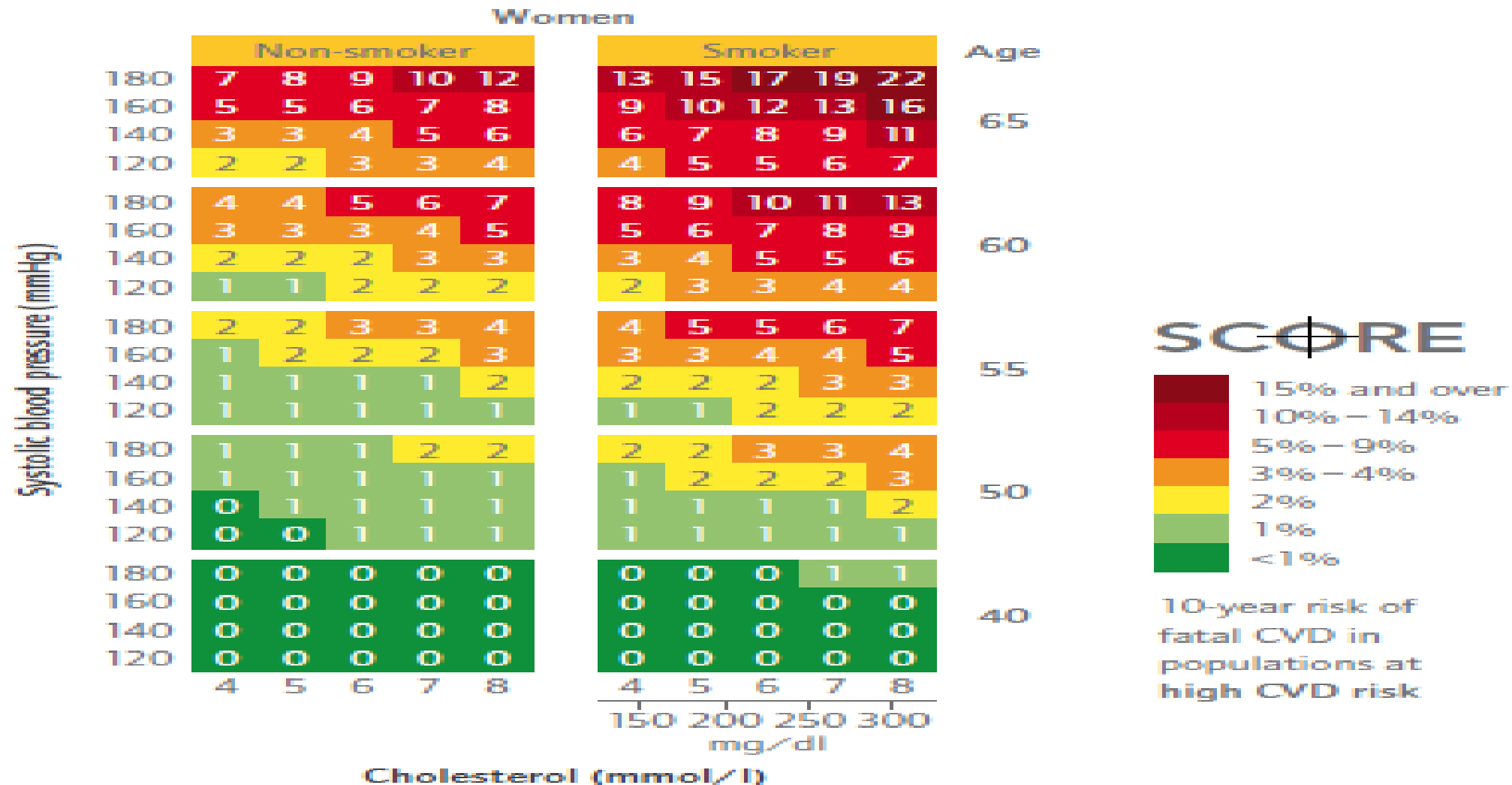
10-year risk ____%

SCORE CHART SHOWING 10-YEAR RISK OF FATAL CVD IN WOMEN IN LOW-RISK POPULATIONS



Note: Low-risk countries are: Belgium, France, Greece, Italy, Luxembourg, Spain, Switzerland and Portugal.

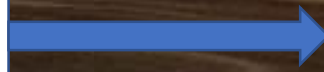
SCORE CHART SHOWING 10-YEAR RISK OF FATAL CVD IN WOMEN IN HIGH-RISK POPULATIONS



Note: High-risk countries are all Western European countries **except:** Belgium, France, Greece, Italy, Luxembourg, Spain, Switzerland and Portugal.

Hypertension

Menopause



Weight gain



Blood pressure reacts more to salt in diet

Blood pressure should be assessed in all women at all visits.

Risk factors for Hypertension:

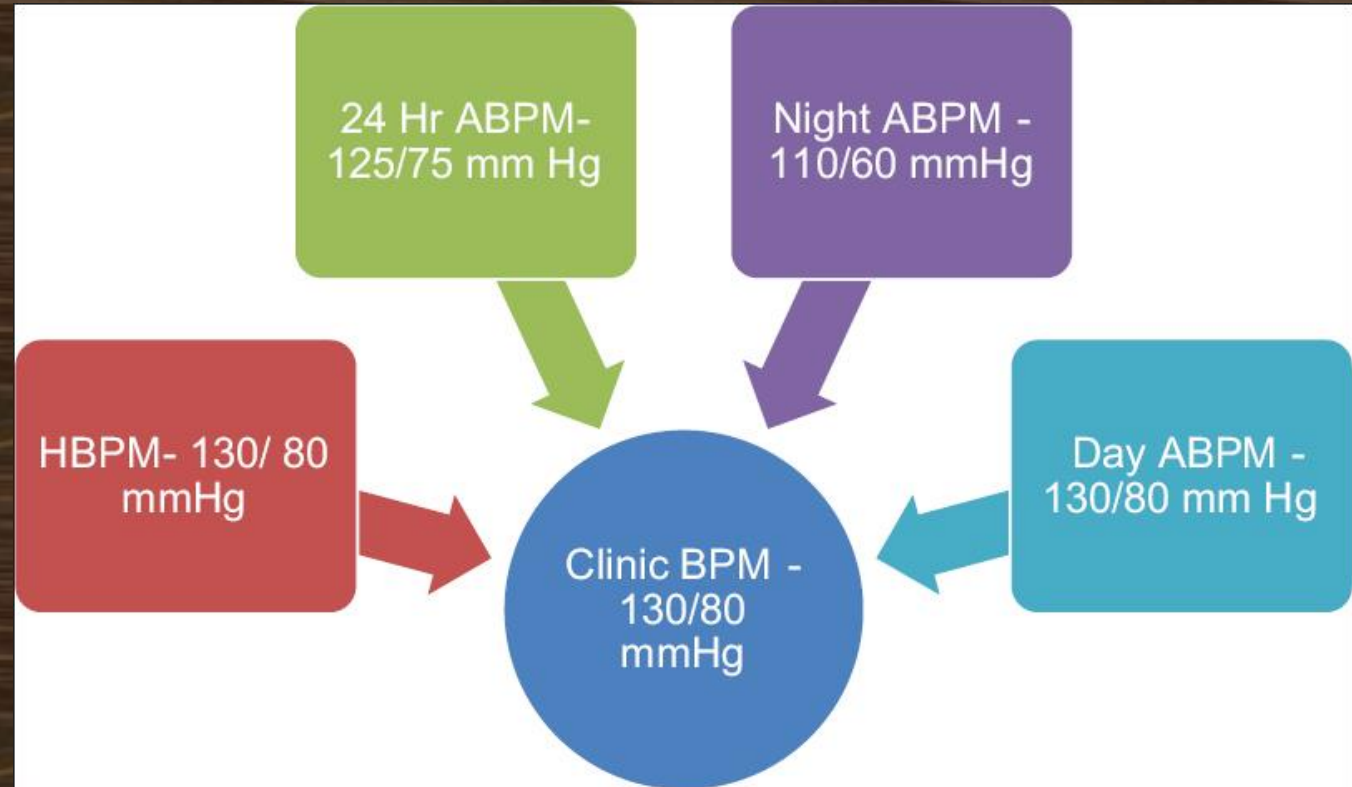
obesity,

poor dietary habits,

high sodium intake,

sedentary lifestyle,

high alcohol consumption.



Basic testing for hypertension includes fasting blood glucose, blood cell count, lipids, metabolic panel, thyroid stimulating hormone, urinalysis, electrocardiogram .

Variable	CCS	ACC/AHA	NICE	USPSTF	ESC/EAS
Lipid-based	LDL-C level ≥ 5.0 mmol/L (≥ 193 mg/dL)	LDL-C level ≥ 4.9 mmol/L (≥ 190 mg/dL)	LDL-C level > 4.9 mmol/L (> 190 mg/dL) or total cholesterol level > 7.5 mmol/L (> 290 mg/dL)	-	LDL-C level > 6.0 mmol/L (> 232 mg/dL) or total cholesterol level > 8.0 mmol/L (> 309 mg/dL)
Risk-based	Age 40-75 y and $\geq 20\%$ predicted 10-y risk for any ASCVD according to the FRS Or age 40-75 y, 10%-19% predicted 10-y risk for any ASCVD according to the FRS, and LDL-C level ≥ 3.5 mmol/L (≥ 135 mg/dL)* Or diabetes Or CKD (age ≥ 50 y) and eGFR < 60 mL/min/1.73 m ²	Age 40-75 y, $\geq 7.5\%$ predicted 10-y risk for any ASCVD estimated using the PCEs, and LDL-C level of 1.8-4.9 mmol/L (70-189 mg/dL) Or diabetes and LDL-C level ≥ 1.8 mmol/L (≥ 70 mg/dL)	Age 40-75 y and $\geq 10\%$ predicted 10-y risk for any ASCVD estimated using the QRISK2 prediction model Or non-dialysis-dependent CKD	Age 40-75 y and $\geq 10\%$ predicted 10-y risk for any ASCVD estimated using the PCE plus ≥ 1 CVD risk factor†	Age 40-65 y, LDL-C level ≥ 4.0 mmol/L (≥ 155 mg/dL), and 5%-9% predicted 10-y risk for fatal ASCVD estimated using the SCORE prediction model Or age 40-65 y, LDL-C level ≥ 2.5 mmol/L (≥ 97 mg/dL), and $\geq 10\%$ predicted 10-y risk for fatal ASCVD estimated using the SCORE prediction model Or diabetes Or non-dialysis-dependent CKD and eGFR < 60 mL/min/1.73 m ²

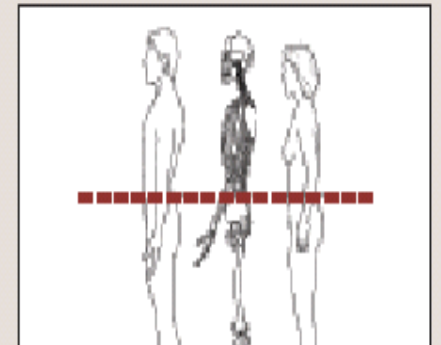
Improvement of physical function is decreased if woman is obese



Obesity and overweight are different
Defined using body mass index (BMI)
BMI > 40 kg/m² --- severely or morbidly obese
BMI > 30 kg/m² --- obese
BMI > 25 kg/m² --- overweight

Figure How to measure waist circumference

Locate the upper hip bone and the top of the right iliac crest. Place a measuring tape in a horizontal plane around the abdomen at the level of the iliac crest. Before reading the tape measure, make sure the tape is secure, but not too tight and is parallel to the floor. The reading should be taken at the end of an expiration.



Waist circumference
>80cm



American Heart Association (AHA) Recommendation For Overall Cardiovascular Health:

At least 30 minutes of moderate-intensity aerobic activity at least 5 days per week for a total of 150 minutes

OR

At least 25 minutes of vigorous aerobic activity at least 3 days per week for a total of 75 minutes; or a combination of moderate- and vigorous-intensity aerobic activity

AND

Moderate- to high-intensity muscle-strengthening activity at least 2 days per week for additional health benefits.

For Lowering Blood Pressure and Cholesterol

An average 40 minutes of moderate- to vigorous-intensity aerobic activity

3 or 4 times per week





One should avoid transfatty acids (partially hydrogenated vegetable fats) as they are more dangerous than saturated fats (they increase bad cholesterol, LDL cholesterol, and decrease good cholesterol, HDL cholesterol).

Bis



Mostly manufactured with Vanaspati, containing trans- fatty acids

Minimum TFA in oats biscuits, less in glucose biscuits also

TFA in cream biscuit and cookies had same TFA



**2 per cent increase in energy intake
from trans fat has been associated
with a 23 per cent increase
in the risk of heart disease**

**Repeated heating/frying led
to an increase in trans fat content**

**FSSAI clearly states that oil should
not be reused more than 2-3 times**

Diabetes

When to start testing blood glucose levels

After 35 years; If the findings are normal, screening every 3 years would be ideal.

How often to test in diabetics

Every 20-30 days, if all is well.

How often to test Hb1Ac?

Every 3 months. Life of RBC is 3 months. Hb1Ac depicts sugar incorporated in RBC's and hence overall control of diabetes

Should serum creatinine be tested in all diabetics even if well controlled?

Start at the beginning of diagnosis of diabetes and yearly thereafter, irrespective of glycemic control.

Can HRT be given in diabetes?

**Yes, HRT can even improve diabetes control.
But give only if indications for HRT exist.**

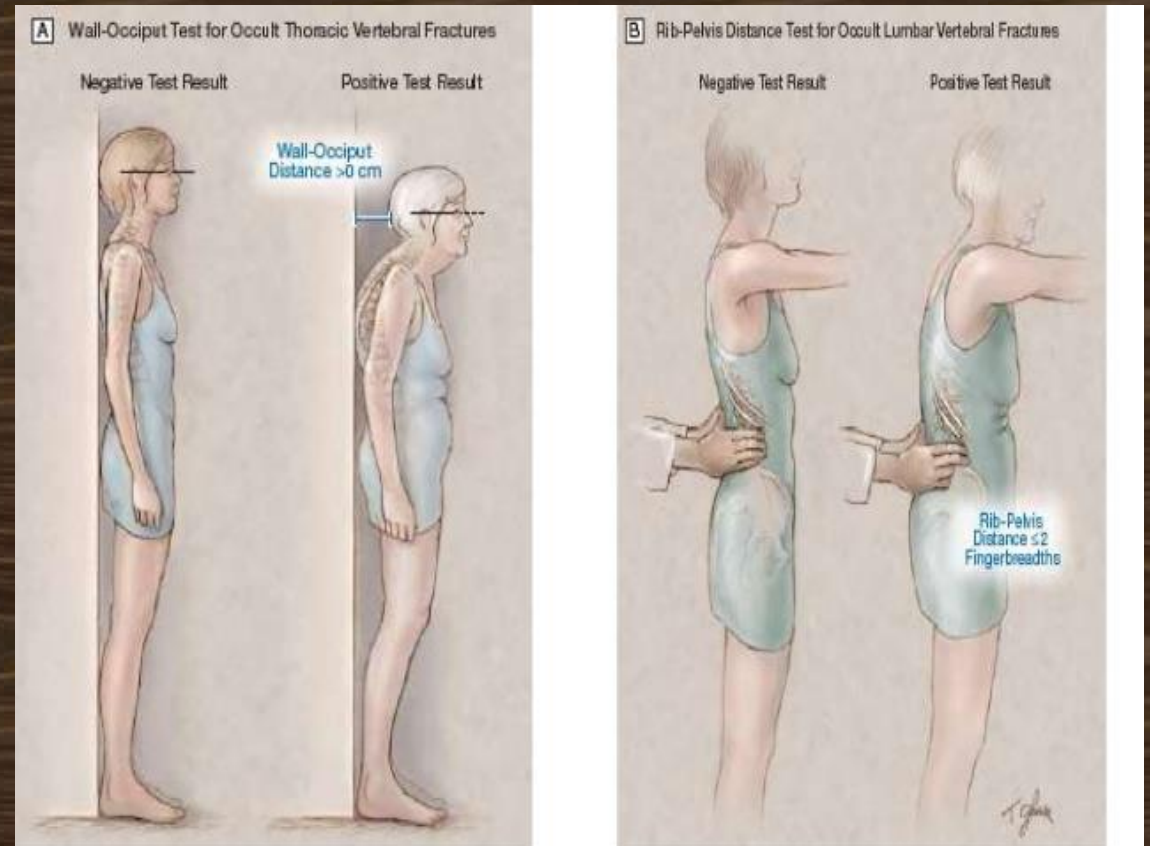
Osteoporosis: Risk assessment

Physical examination

- Should include recording the height and weight annually, checking for balance and gait, get up, and go test by asking the women to get up from the chair without using their arms.



- The occiput to wall distance in a standing position is ideally zero: Inability to touch the occiput to wall while standing implies a thoracic fracture.
- Inability to insinuate the four fingers of the hand between the lower rib cage and anterior superior iliac crest implies a lumbar fracture.
- Kyphosis and Dowager's hump are seen in the late stage of osteoporosis



DEXA: Dual X-ray absorptiometry

The “gold standard” method of BMD testing is by dual X-ray absorptiometry (DXA).

Its value is expressed in standard deviation (SD) units from the population mean in young adults (T-score)
or from the mean in an age-matched population (Z score).

Currently WHO/IOF define osteoporosis as a value for BMD 2.5 SD or more assessed at the femoral neck and is below the young female adult mean (T-score ≤ -2.5 SD)

Diagnosis of osteoporosis Definition Score

Normal T-score above (i.e., better than) -1.0

Osteopenia or low T-score between -1.0 and -2.5 bone mass

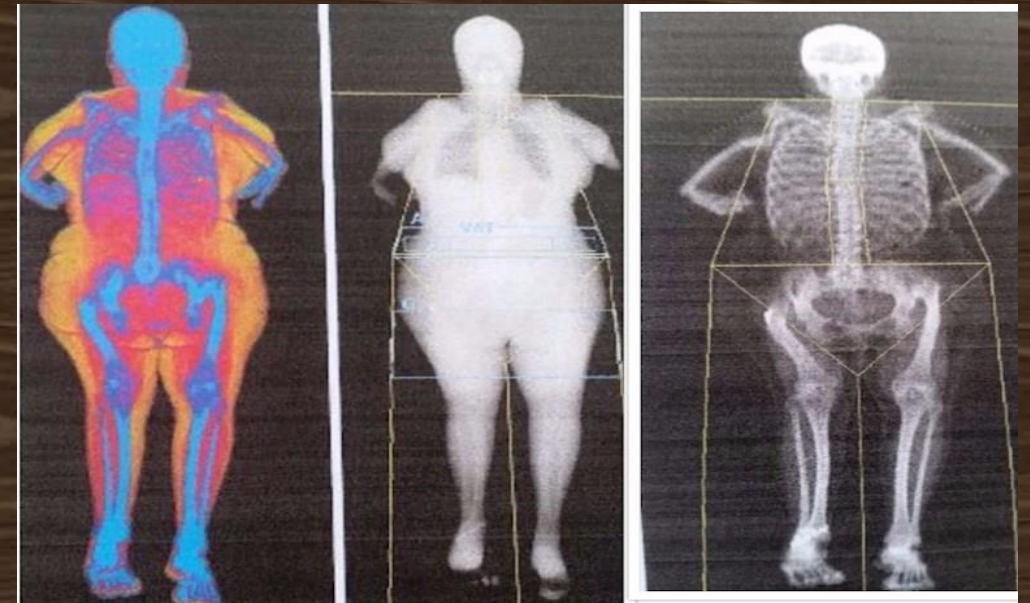
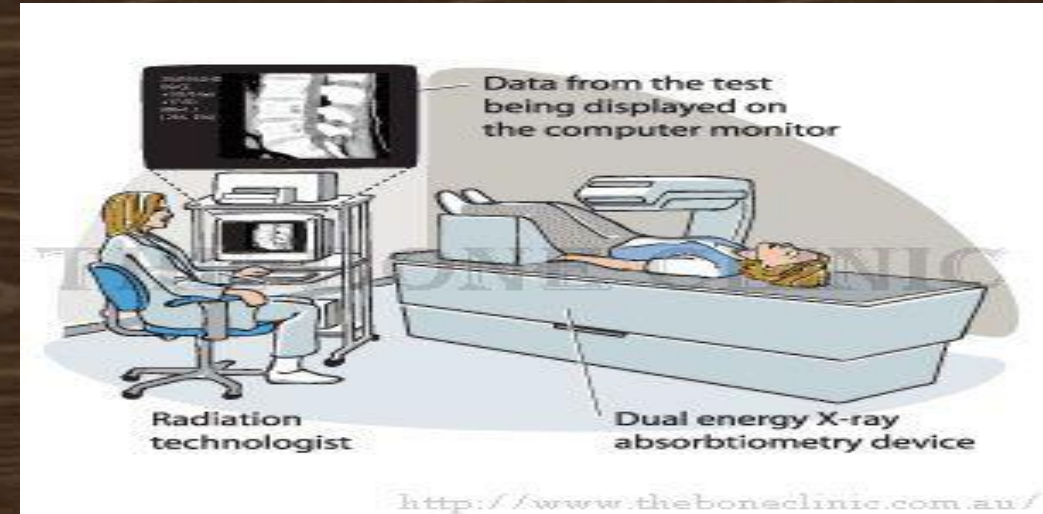
Osteoporosis T-score below (i.e., worse than) or equal to -2.5

Severe osteoporosis T-score below -2.5 with fragility fracture

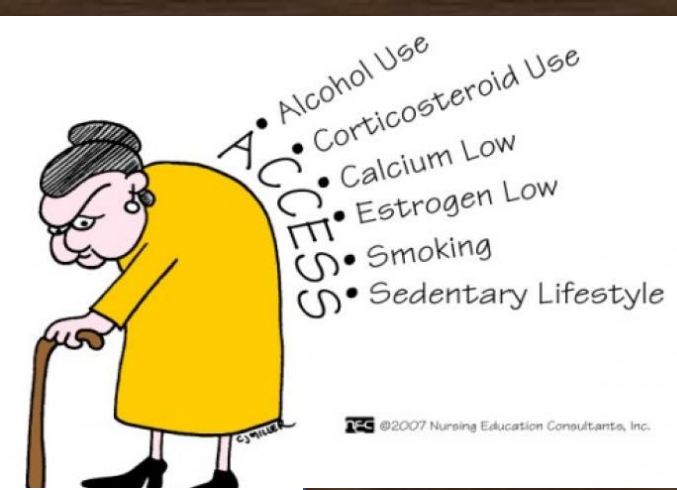
Indications for DXA (GRADE B)

- All post-menopausal women more than 5 years of menopause.
- Post-menopausal women less than 5 years of menopause with risk factors.
- Women in menopause transition with secondary causes.
- Radiological evidence of osteopenia and presence of vertebral compression fracture.
- Women with fragility fractures.
- Ideally before initiating pharmacotherapy for osteoporosis.
- Emerging indications are to measure total body fat and lean tissue mass.

To monitor therapy the interval to the next DXA should depend on the calculated individual risk and would mostly be scheduled between 1 years and 5 years later.



The Fracture Risk Assessment Tool FRAX



Age

Smoking

Family history of hip fracture

Glucocorticoid use (eg, Prednisone)

Arthritis

Femoral neck bone mineral density (BMD; femoral neck BMD measures the part of the thigh bone that connects to the hip joint)

Country : **UK**

Name / ID :

About the risk factors 

Questionnaire:

1. Age (between 40-90 years) or Date of birth

Age:

Date of birth:

Y:

M:

D:

2. Sex

Male

Female

3. Weight (kg)

4. Height (cm)

5. Previous fracture

No

Yes

6. Parent fractured hip

No

Yes

7. Current smoking

No

Yes

8. Glucocorticoids

No

Yes

9. Rheumatoid arthritis

No

Yes

10. Secondary osteoporosis

No

Yes

11. Alcohol 3 more units per day

No

Yes

12. Femoral neck BMD

Select



Clear

Calculate

BMI

The ten year probability of fracture (%)



without BMD

Major osteoporotic

Hip fracture

[View NOGG Guidance](#)




Osteoporosis Canada

Ostéoporose Canada

Calculating Absolute 10-year Fracture Risk: FRAX Tool

2010 Guidelines

Country: **Canada** Name/ID: Mrs. SP About the risk factors 

Questionnaire:

1. Age (between 40-90 years) or Date of birth
Age: Date of birth: Y: M: D:

2. Sex Male Female

3. Weight (kg)

4. Height (cm)

5. Previous fracture No Yes

6. Parent fractured hip No Yes

7. Current smoking No Yes


8. Glucocorticoids No Yes

9. Rheumatoid arthritis No Yes

10. Secondary osteoporosis No Yes

11. Alcohol 3 or more units per day No Yes

12. Femoral neck BMD (g/cm²)
T-Score

BMI 22.3
The ten year probability of fracture (%) 

without BMD

<input checked="" type="checkbox"/> Major osteoporotic	
<input checked="" type="checkbox"/> Hip fracture	

with BMD

<input checked="" type="checkbox"/> Major osteoporotic	15
<input checked="" type="checkbox"/> Hip fracture	3.1

[Click here to see her CAROC assessment](#)

Mrs. SP is at moderate risk of fractures using the FRAX model

Indian guidelines

- **X-ray abnormality is a feature of advanced bone disease.**

We recommend X-rays in all the diagnostic protocols for osteoporosis

- **In the absence of calibrated ultrasound machines, it is not recommended for population screening (GRADE A).**

- (QCT) Quantitative Computed Tomography AND
- MAGNETIC RESONANCE IMAGING (MRI)

- QCT and magnetic resonance imaging (MRI) give an additional advantage of 3D structural assessment of bone tissue (GRADE A).

BONE MARKERS

Type of marker

- **Bone resorption: Serum CTX Carboxy -terminal cross linked telopeptide of type I collagen or urine CTX.**
- **Bone formation: PINP N - terminal propeptide of type I procollagen, venous thromboembolism (VTE) and CVD Cardiovascular events.**

Bone turnover markers are not a part of the routine tests to be used for clinical diagnosis

However, if it is used to assess compliance and efficacy of therapy.

Use one marker of bone resorption and one marker of bone formation.

More specifically, markers for bone resorption when on anti-resorptives and bone formation markers when on anabolic agents.

Intervals of measurement

- Resorption markers: Before starting treatment and 3 or 6 months after treatment has been initiated.**
- Formation markers: Before starting treatment and 6 months after treatment has been initiated.**

When to treat

Treatment should be considered in women

Presenting with fragility fractures.

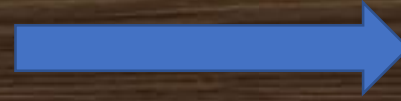
Radiographic diagnosis of incidental vertebral fracture and osteopenia.

Diagnosis of osteoporosis based on DXA, i.e., T-score of less than -2.5 at hip or spine.

With secondary causes and high-risk of fractures.

In the absence of BMD measurements by DXA, intervention is individualized, understanding and considering the cost benefit and risk benefit outcome of the intervention

Menopause



**Vulnerability
To Depression**



Perimenopause



It can be both ways

Women with depression more likely
to get vasomotor symptoms



Women with vasomotor symptoms
more likely to get depression



What are the risk factors for depression during menopausal transition?

- Previous Depressive Episode
- Premenstrual Syndrome
- Postpartum depression
- Hot flashes/ insomnia
- Elevated BMI
- Poor Social Status
- Physical health Issues
- Psychoactive Medication Use
- Ethnicity
- Bilateral oophorectomy without replacement estrogen

Major depressive disorder

5 of the following symptoms for at least 2 weeks

Depressed mood

Loss of energy

Diminished interest

Significant weight changes

Psychomotor agitation or retardation

Sleep pattern changes

Decreased concentration

Feeling worthless or inappropriate guilt

Suicidal ideation or attempts

Minor depression

Presence of 2–4 depressive symptoms during a 2-week period.

One of these symptoms has to be either depressed mood or loss of interest or pleasure.

Screening for malignancies

Cervical cancer

Screen from 25-30 years of age

Endometrial cancer

Endometrial biopsy only in certain cases of AUB

Ovarian cancer

Breast cancer

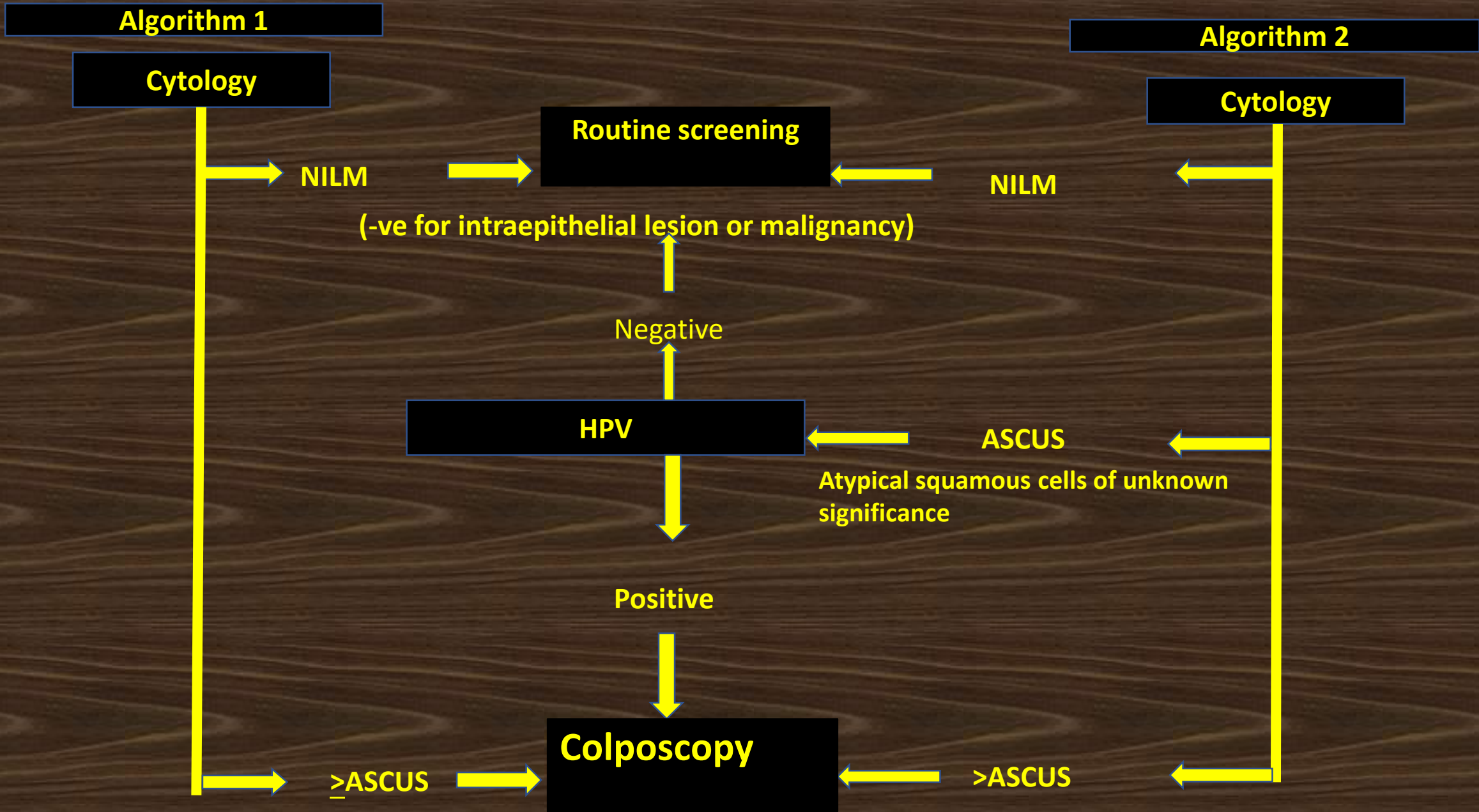
**From 40 to 50 years of age, yearly mammography is recommended.
After 50 years of age, mammography may be done every 2 years.**

**Cytology every 3
years**

**VIA
Visual
inspection with
acetic acid.**

Colposcopy

**HPV testing
or co-testing
every 5 years.**



Indications for Endometrial Biopsy:

- A. All post menopausal bleeding
- B. All persistent or heavy peri menopausal bleeding
 - 1. High risk of endometrial cancer
 - 2. More than 12 months of bleeding
- C. Abnormal bleeding at any age (esp. > 35), if high risk
- D. Very high risk asymptomatic women
 - 1. Morbid obesity
 - 2. Unopposed estrogen
 - 3. Chronic anovulation
- E. Refractory Anovulatory Dysfunctional Uterine Bleeding
- F. Tamoxifen use

Risk of progression to endometrial cancer

