Basic: Module 2

Menopause - Definitions, Diagnosis

Agenda

- Define menopause

- Types of menopause

- Diagnosis of menopause

- Staging of menopause

- Initial assessment at menopause

- Classifying women to plan management

Transition In Women's Life

- Menarche

- Pregnancy

- Menopause

Definition Of Menopause

- 12 months of amenorrhea

- Retrospective diagnosis

- Depletion of ovarian follicles

- Diminution of ovarian hormones

- No independent biological marker

- Objective sensitive marker—Irregular cycles

  No need to conduct tests routinely to diagnose menopause

Diagnosis Of Menopause

- **History** - Symptoms

- **Signs** - Vaginal pH

   Lateral vaginal smear

- **Trial of Medication** - Progesterone withdrawal

   Response to HT

Diagnosis Of Menopause

- **Laboratory Tests**

Tests	Results
Serum FSH	> 40 mlu/ml
Serum Estradiol	< 20 pg/ml
AMH, Inhibin B	Low
US	< Antral Follicular Count

Markers for diagnosis of menopause are preferably restricted for use in special situations and for fertility issues

Definitions

- **Premenopause** - Reproductive period prior to menopause

- **Perimenopause** - 3-5 years before and one year after menopause

- **Menopause Transition** - Disturbed menstrual cycle, endocrine changes

Postmenopause And Senescence

- **Postmenopause**

  It is the span of time dating from the final menstrual period, regardless of whether menopause was spontaneous or iatrogenic

- **Senescence**

  It is the period after the age of 60 years

Premature Menopause

- Spontaneous menopause occurring two standard deviations below the mean estimated age for the reference population

- Traditionally, considered to be below the age of 40 years- we may consider it as occurring below 38 years*

  * We need population-based studies to derive at the cut off values

Clinical Practice Guidelines on Menopause 2012, updated 2015, Indian Menopause Society

Early And Delayed Menopause

- **Early menopause**: It is the time span between the spontaneous or iatrogenic menopause occurring between the age of 40 years and the accepted typical age of menopause for a given population

- **Delayed menopause**: It is not defined but may be important in terms of the increased problems associated with the hyperestrogenism. It is two standard deviations above from the natural average age of menopause in a given population. We may consider it to be beyond 54 years

Induced And Temporary Menopause

- **Induced menopause**: Cessation of menstruation that follows bilateral oophorectomy or iatrogenic ablation of ovarian function

- **Temporary menopause**: It is a term preferably not to be used, since definition of menopause is complete cessation of menstruation. Rarely, ovarian function is interrupted for a period of time and later resumes

Postmenopausal Bleeding

- Postmenopausal bleeding is the occurrence of vaginal bleeding following a woman's final menstrual cycle and is not on cyclical hormone therapy

- But, vaginal bleeding that occurs six months after amenorrhea should be considered suspicious and warrants investigation

Age At Natural Menopause

- Estimated mean age of menopause is 46 years in India, and is lower than that of the Caucasians

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Etiology Of Common Symptoms Of Midlife Women: Aging Vs Menopause

- General aging

- Midlife – society, culture, life events

- Ovarian aging: perimenopause and postmenopause
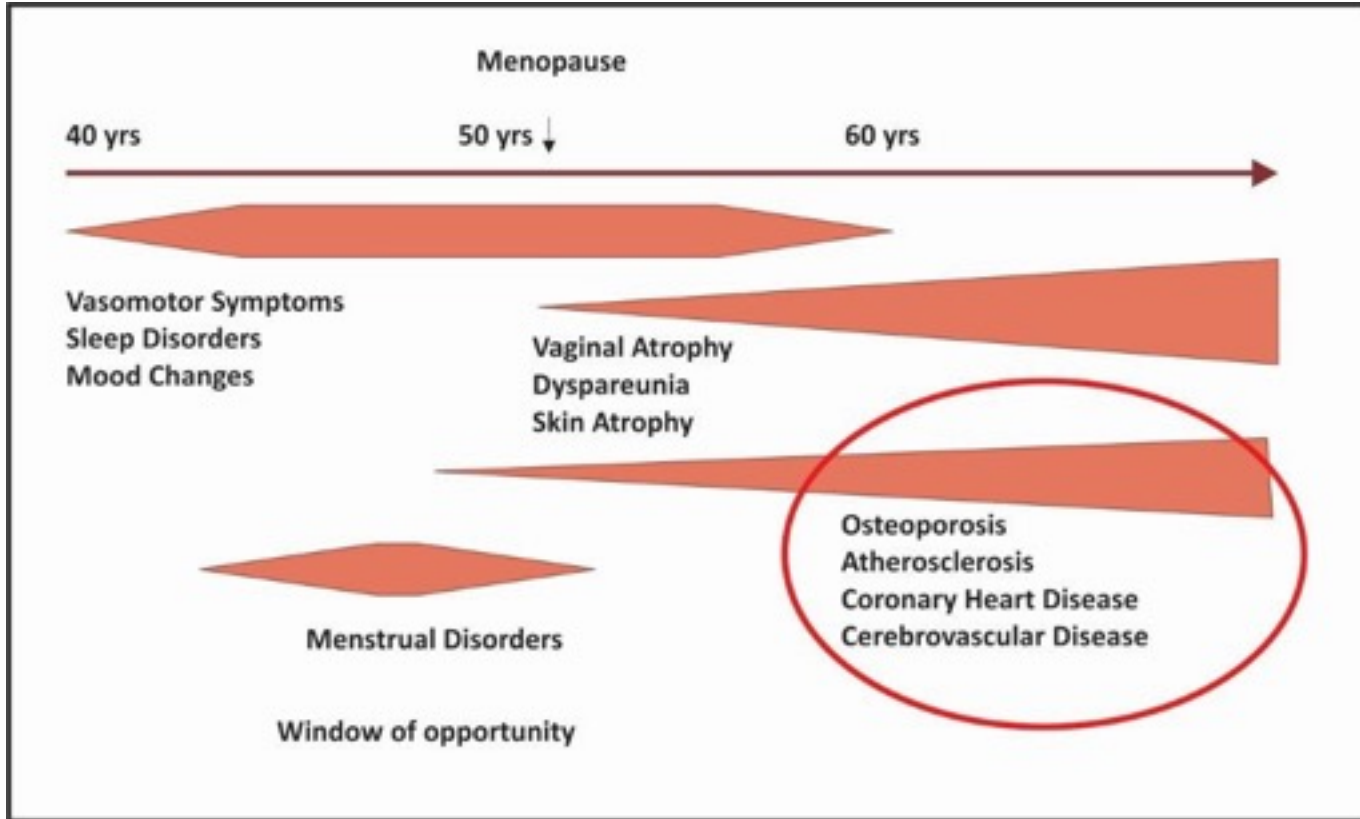
Staging Systems: IMS Consensus Group

- Both modified classification of Anklesaria's staging & stages of reproductive aging workshop (STRAW) classifications, may be utilized for Clinical Purposes and Treatment of Menopause

Modified Anklesaria's IMS Consensus Group Staging

Menopause			
Stage I	Stage II A	Stage II B	Stage III
Roughly 2 years before menopause Early (Premenopausal symptoms): IA Vasomotor instability IB Early psychosomatic symptoms Menstrual problems	1 year after last period Atrophic changes Genitourinary Vasomotor Weight gain Osteopenia	Up to 5 years after menopause Intermediate (postmenopausal symptoms): Late psychosomatic and genital symptoms Sexual disorders Residual changes from stage II A osteopenia or osteoporosis	From 5 years postmenopausal till Late (postmenopausal) complications: Residual changes from stage II Ischemic heart changes Other late complications, e.g. Alzheimer's disease, Osteoporosis
PREVENT	TREAT	TREAT	PALLIATE

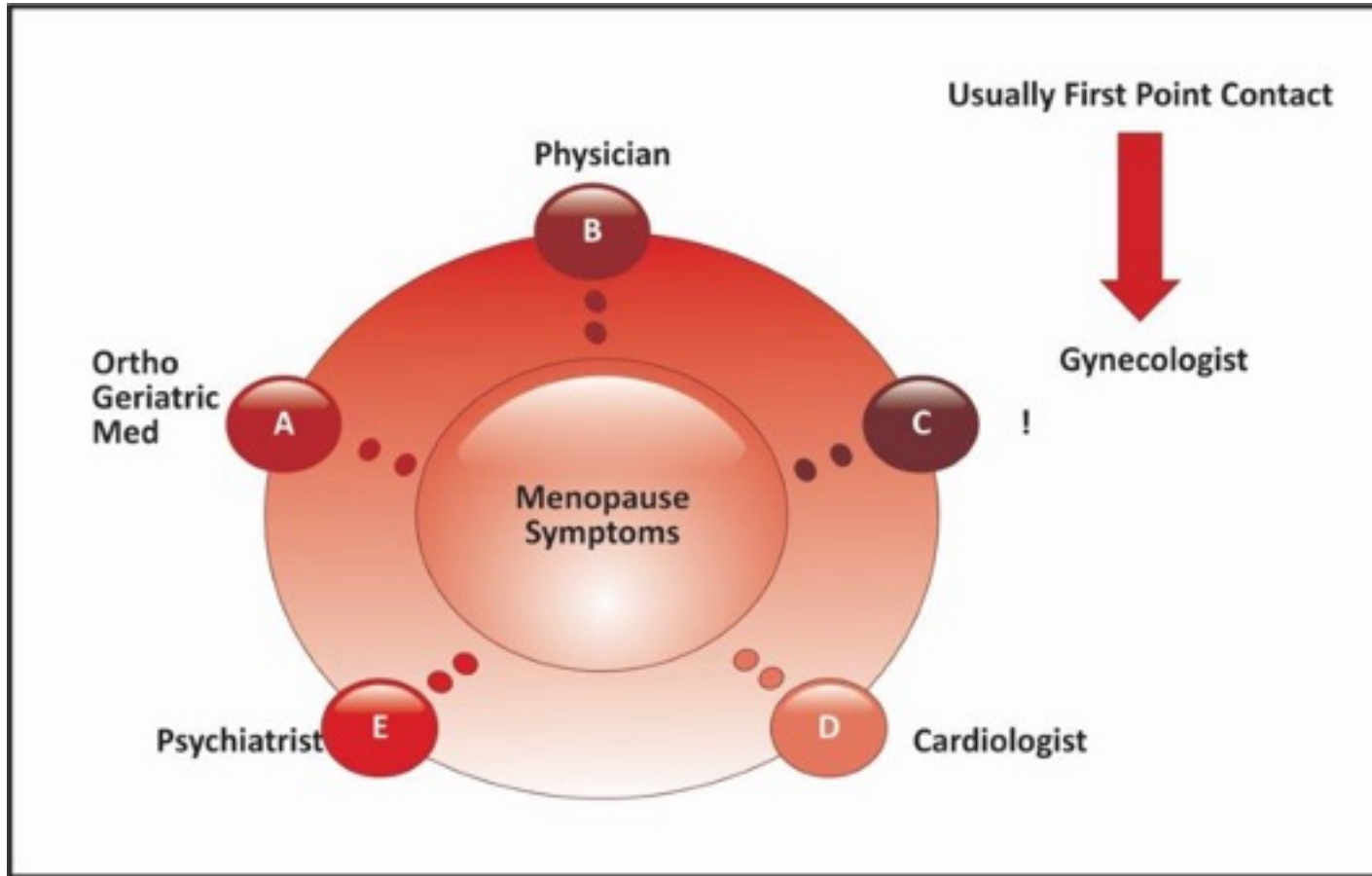**Window of Opportunity**

When Is Medical Intervention Required?

Changes At Menopause Transition
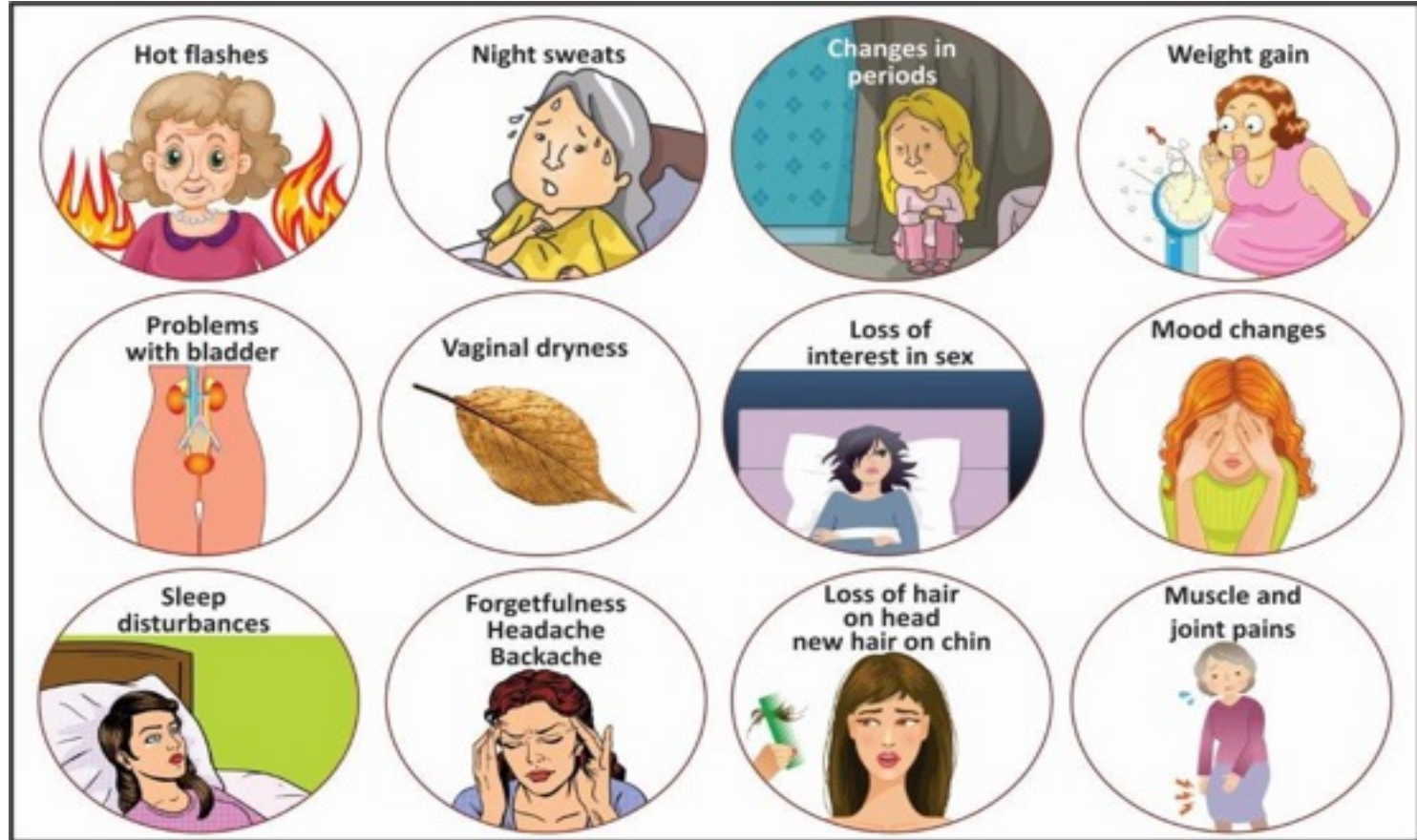
Who Manages Menopause?

Menopause Clinic

- **Minimum Basic Requirement**

  - Core team- Gynecologist, Nurse, Receptionist

  - Secondary team of visiting consultants

- **Equipment**

  -Examination table with lithotomy position, Measuring tape, Weighing machine, BP Apparatus, Speculums, Pap's smear kits, Laboratory/ Collection centre

- **Stationary**

Menopause Performa

access-wwwindianmenopausesociety.org-domain Clinical practice guidelines on menopause

Physician's Role And Approach

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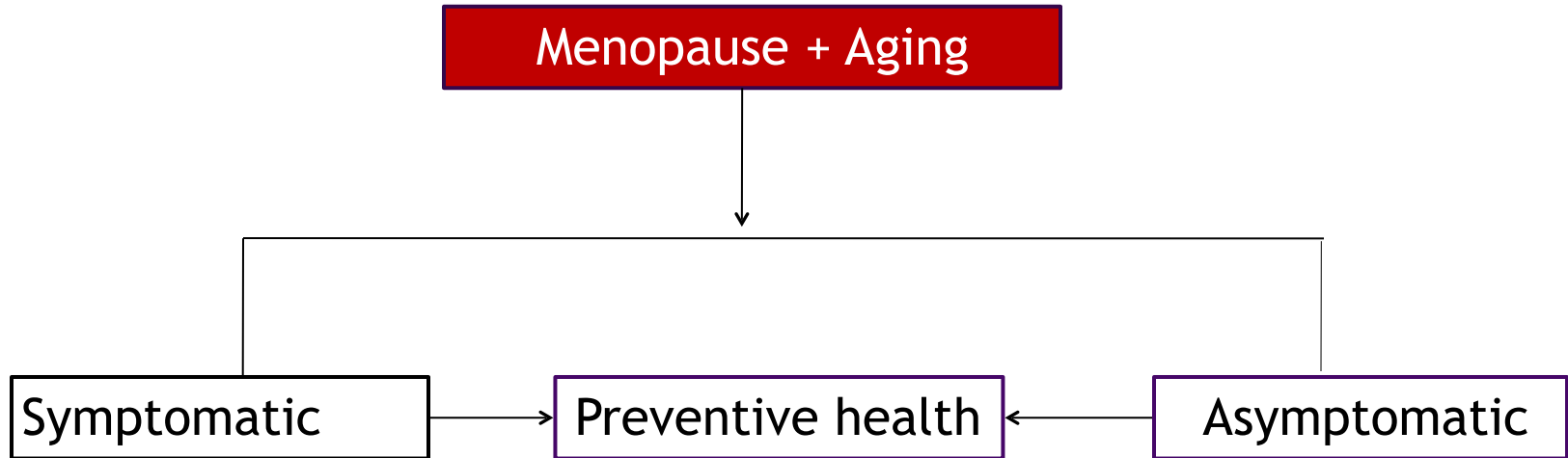
Physician's Role

- Assessment of symptoms

- Physical Examination

- Investigation

- Management -   **Group 1- Women without menopausal symptoms**

                    Group 2- Women with menopausal symptoms
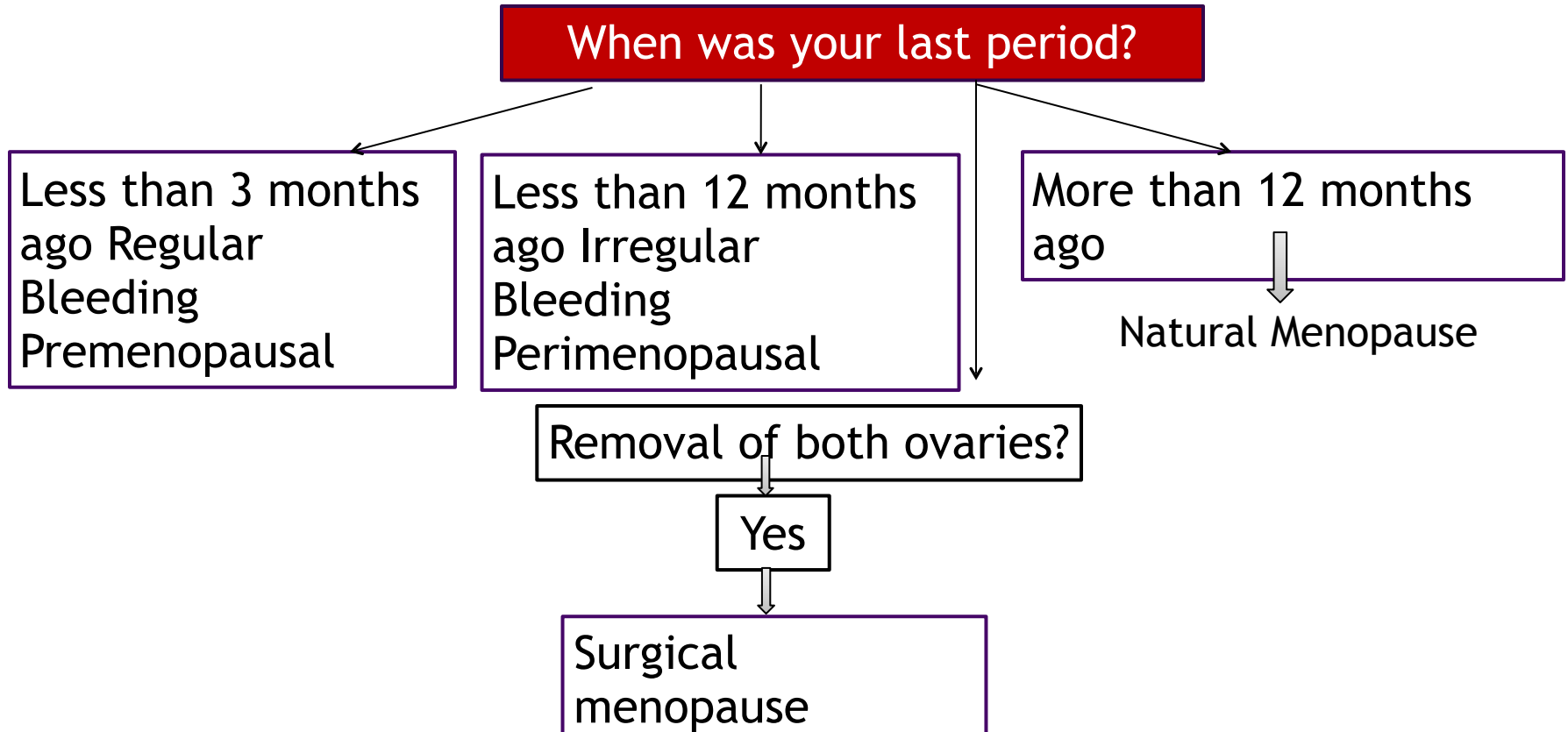
Physician's Role

- Each group, is sub-classified

  - Healthy with no co-morbidities, Healthy with significant risk factors,

    Healthy with latent disease, Medically compromised

- Lifestyle management

- Pharmacotherapy after risk/benefit analysis

Menopause Clinic

- A young woman is a gift of nature

  but an old woman is a work of art

Is This Woman Pre/Peri/ Postmenopausal

When was your last period?

Less than 3 months ago Regular Bleeding Premenopausal

Less than 12 months ago Irregular Bleeding Perimenopausal

More than 12 months ago

Natural Menopause

Removal of both ovaries?

Yes

Surgical menopause

Assessment History

Full assessment required irrespective of presenting reason of midlife woman

Medical History

Menopausal symptoms
Gynaecological facts:
Bleeding pattern or LMP
Past surgery (eg: hysterectomy/ oophorectomy)
Current use of hormonal therapy
+/- contraceptive needs
Dietary History
Sleep History
Sexual History
PMS, Postnatal depression,

Risk assessment of:
Diabetes
Hypertension
Deep vein thrombosis,
Thyroid dysfunction
Liver disease
Osteoporosis,
Arthritis,
Climacteric depression
Dementia
Cancers in general, breast, cervical , endometrial, ovarian

Family History:
Cardio/cerebrovascular disease
Osteoporosis/fractures
Dementia
Cancer

Current medication including OTC medications

Social & Personal history
Tobacco/alcohol use

Calcium Calculator -Diet

- Quick dietary calcium assessment chart: A tool for a quick assessment of total dietary calcium intake

Source	Calcium (in mg)*	No. Of Servings	Total Calcium (mg)
Dietary	300/1glass milk 300/2 katori curds	X	-
Non-dietary	200–300	X	-

Risk Factors – Osteoporosis

Modifiable
- Low BMI
- Smoking and
- More than 3 drinks of alcohol per day (Grade A)

Non-modifiable
- Gender
- Advancing age
- Prior fragility fracture, or
- Family history of fracture

Environmental Factors
- Nutrition (calcium intake using the quick dietary calculator, protein)
- Physical activity
- Sunlight exposure which are important modifiable risk factors in India
- Relevance of risk of falling increases with ageing (Grade A)

Risk Factors – Cardiovascular Disease (CVD)

Modifiable	**Non-modifiable**	**Additional risk factors for stroke**
• Diabetes • Hypertension • High LDL Cholesterol • Low HDL Cholesterol (<35mg/dl) • Elevated Triglycerides • Physical Inactivity • Cigarette smoking (current) • Obesity • Homocystenemia • Lipoprotein(a), • High risk CRP	• Age more than 55 yrs • Premature menopause < 40 yrs • Family history of CHD < 65 yrs	• Atrial fibrillation • Asymptomatic carotid stenosis

Risk Factors – Deep Vein Thrombosis

- Personal or family history of clot, if so, when?

  - While on Prolonged immobilization/surgery/ or while pregnant or on the contraceptive pills

  - Were tests performed to confirm the history/treatment with anticoagulants for the clot?

Risk Factors – Diabetes Mellitus

Modifiable	Non-modifiable
• Hypertension • Dyslipidemia • Polycystic ovary syndrome • Physical inactivity • Obesity	• Advancing age • Family history • Personal history of gestational diabetes mellitus or impaired glucose tolerance • Polycystic ovary syndrome

Risk Factors – Alzheimer's Disease

Modifiable	**Non-modifiable**
• Physical inactivity	• Age
• Diabetes	• Family history
• Hypertension	• Genetic factor apolipoprotein APOE,
• Dyslipidaemia	• Auto-immune diseases
• Smoking	• Head trauma
• Obesity	• Traumatic brain injury
• Depression	
• Stress & Social engagement	
• Diet	

Polypharmacy and thyroid disease are 2 examples of reversible causes of memory loss in older adults

Risk Factors – Breast Caner

Modifiable	Non-modifiable
• Age at First Child	• Age & Gender
• Breastfeeding	• Benign Breast Disease
• BMI	• Family History
• Alcohol	• BRCA1 & BRCA2
• Hormone Therapy?	• Menstrual History: Ages at Menarche and Menopause
	• Breast Density on Mammogram
	• Medical History of Hodgkin's Lymphoma

Risk Factors – Endometrium Cancer

Modifiable	Non-modifiable
• Obesity	• Advancing Age
• Diabetes	• Endogenous Estrogens
• Hypertension	• Late menopause
• Polycystic Ovarian Syndrome	• Nulliparity and Infertility
• Unopposed Estrogen Therapy	• Genetic factor

Assessment – Clinical Examination

Full assessment required irrespective of presenting reason of midlife woman

Examination

| Height & Weight Blood Pressure & CVS Pelvic examination (+/- Pap Smear) Breast examination Thyroid Examination | Waist Circumference Physical fitness Assessment of mood and cognition Eye check-up—intraocular pressures, refractive index, and retina Dental check up |

Assessment – Investigations

Full assessment required irrespective of presenting reason of midlife woman

Laboratory Tests	
Ideal	Complete blood picture
	Urine test routine
	Fasting blood glucose level
	Lipid profile
	Serum thyroid stimulating hormone
	Papanicolaou (PAP) smear
	Transvaginal ultrasound
	Mammogram

Further targeted investigations are done depending on the risks of a disease suspected on history and clinical examination

Health Check At Menopause
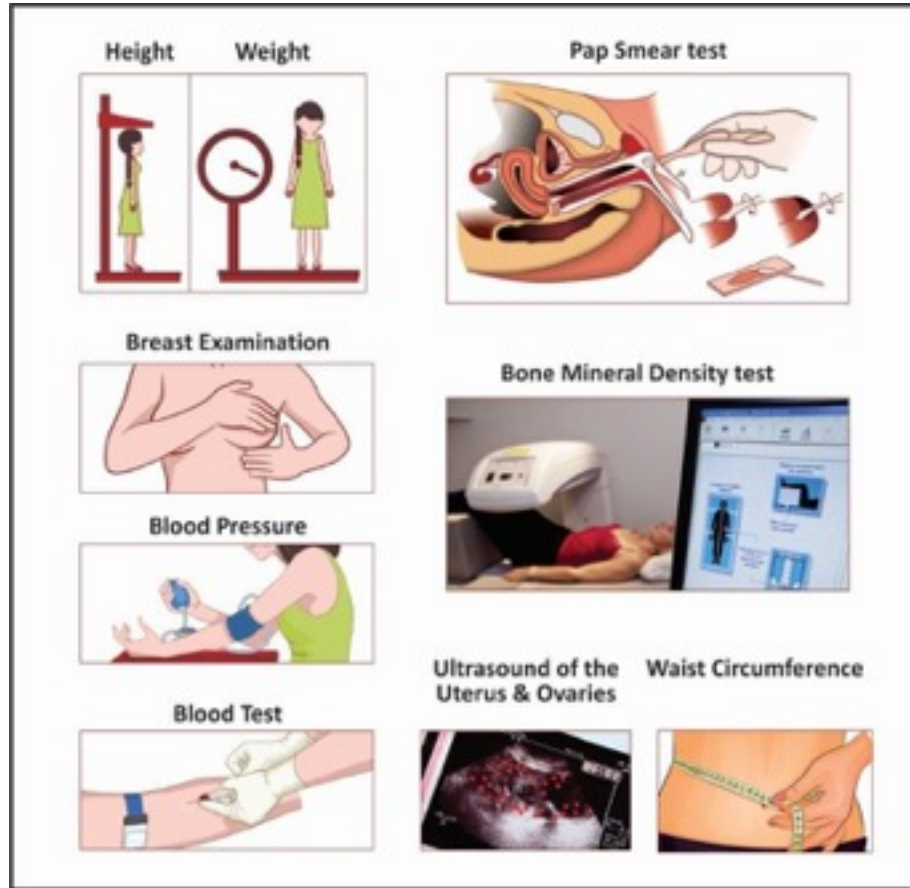
Recommendations Of DXA Scan In Indian Females

- All women 5 years beyond the age of natural menopause

- Women less than 5 years since Menopause with a particular risk factor

- Women with fragility fractures

- Women in Menopause transition with secondary causes

- Radiological evidence of osteopenia & presence of vertebral compression fractures

Clinical Practice Guidelines on Post Menopausal Osteoporosis 2012,Indian Menopause Society

Recommendations Of DXA Scan In Indian Females

- Before initiating pharmacotherapy for osteoporosis

- The Interval Testing should be based on calculated individual risk, mostly be scheduled between 1 & 5 years later

Clinical Practice Guidelines on Post Menopausal Osteoporosis 2012,Indian Menopause Society

World Health Organization Osteoporosis Diagnosis
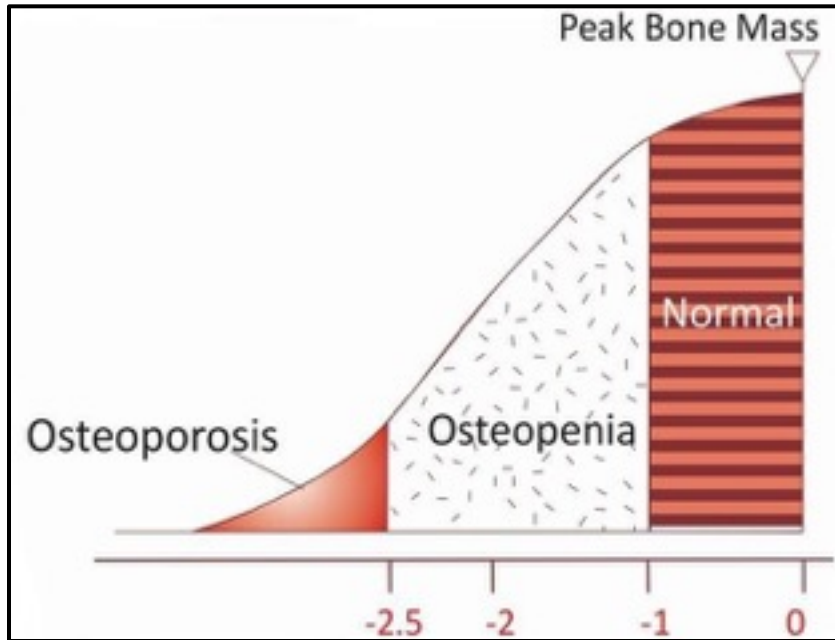
T-score

Normal BMD	T-score between -1 and +1 SD
Low BMD SD (Osteopenia)	T-score between -1 and -2.5
Osteoporosis	T-score between -2.5SD or lower
Severe Osteoporosis	T-score of -2.5 or lower and fracture(s)

* Measured at the hip, spine or wrist

Assessment – Investigations
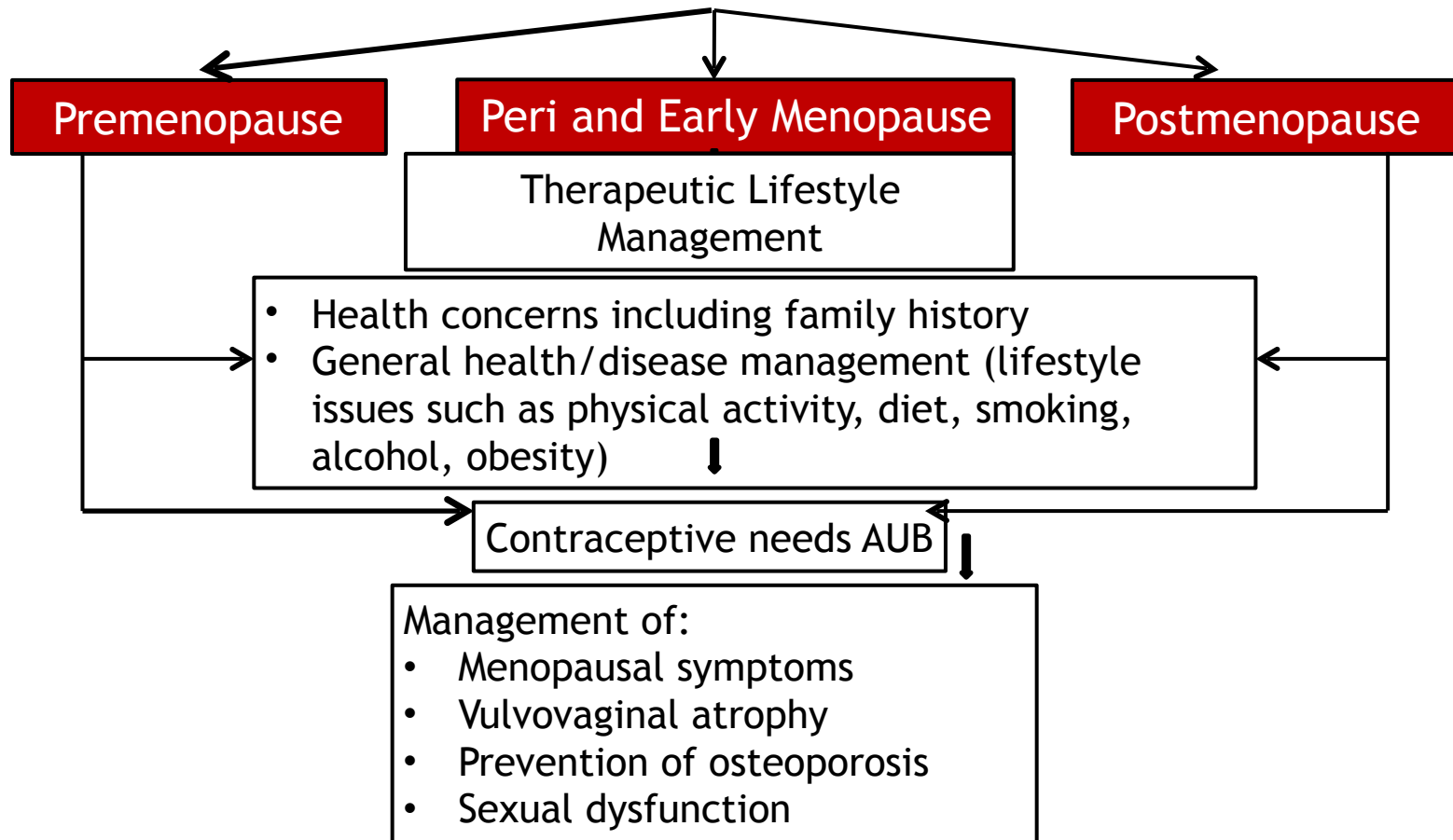

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                    Premenopause      Peri and Early Menopause      Postmenopause
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Peri and Early Menopause

Therapeutic Lifestyle Management

- Health concerns including family history
- General health/disease management (lifestyle issues such as physical activity, diet, smoking, alcohol, obesity)

Contraceptive needs AUB

Management of:
- Menopausal symptoms
- Vulvovaginal atrophy
- Prevention of osteoporosis
- Sexual dysfunction

Management Plan At Menopause

Group 1 - Women Without Menopausal Symptoms

Group 2 - Women With Menopausal Symptoms

Management Plan At Menopause
Group 1 – Women Without Menopausal Symptoms

a. Healthy with no problems, no symptoms - Institute preventive and promotive care

b. Healthy with risk factors for disease, no symptoms—Evaluate, institute preventive health care

c. Women with latent disease(pre-disease), no symptoms- Evaluate, treat the disease, institute individualized lifestyle health care,

d. Women with co-morbidities, no symptoms- Treat the disease, institute individualized lifestyle health care,

Management Plan At Menopause
Group 2 – Women With Menopausal Symptoms

a) Healthy with no problems, symptoms of menopause

  • Institute preventive and promotive care health care, treat with MHT

b) Healthy with risk factors for disease , symptoms of menopause

  • Institute preventive health care risk benefit analysis   before therapeutic intervention

Management Plan At Menopause
Group 2 – Women With Menopausal Symptoms

c) Women with latent diseases, symptoms of menopause

- Institute individualized lifestyle health care, risk benefit analysis before therapeutic intervention

d) Women with co-morbidities, symptoms of menopause

- Institute individualized lifestyle health care, treat the disease, risk benefit analysis before therapeutic intervention