

# PREVENTION & SCREENING IN FAMILY PRACTICE

## Objectives:

1. Define screening/ prevention and its uses in family practice
2. Recognize the criteria for screening tests
3. Identify screening types and illustrate examples of targeted people
4. Explain appropriate approach for prevention and screening of common problems in primary care
5. Indicate the pros and cons of screening
6. Summaries the recommendations for screening programs in adults e.g. Breast cancer, Colorectal ca, cervical ca, Prostate ca,.
7. Identify levels of prevention in primary care practice
8. Review the local vaccination schedule from Saudi M.O.H

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*Important Notes Extra Golden*

Editing file [link](#)

## What is Prevention?

- It is the **proactive clinical approach** to maintain and improve health status of patients so that diseases can be avoided, diagnosed early and complications averted.
- Prevention includes a wide range of activities known as “interventions” aimed at reducing risks or threats to health.

| <b>Prevention Types important</b>        |   |
|--|---|
| <b>What do they mean by these terms?</b> |   |
| <b>Primary</b>                           | <ul style="list-style-type: none"><li><input type="checkbox"/> Preventing illnesses <b>before it happened</b></li></ul> Examples: immunization, healthy lifestyle     |
| <b>Secondary</b>                         | <ul style="list-style-type: none"><li><input type="checkbox"/> Detecting diseases at <b>early asymptomatic</b> stage</li></ul> Examples: screening (HTN), mammograms. |
| <b>Tertiary</b>                          | <ul style="list-style-type: none"><li><input type="checkbox"/> <b>Preventing complications</b> of diseases</li></ul> Examples: rehabilitation.                        |



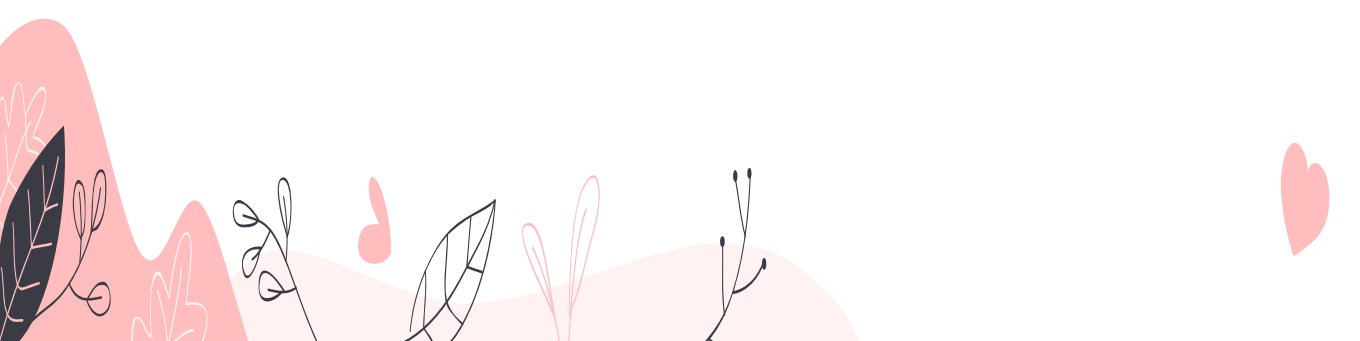
## Screening- *an early disease detection OR secondary prevention*

- ❑ The presumptive **identification of unrecognized disease or defect** by the application of tests, examinations, or other procedures which can be applied rapidly.
- ❑ Screening is **applied to well persons** who probably have a disease from those who probably do not.
- ❑ **A screening is not intended to be diagnostic**
- ❑ Persons with **positive or suspicious findings** must be referred to their physicians for diagnosis and necessary treatment

## Purpose of Screening

- ❑ Identifying **unrecognized disease** (early stage)
- ❑ Identifying persons at **increased risk** for the presence of disease, who warrant further evaluation
- ❑ Classifying people with respect to their likelihood of having a particular disease
- ❑ Reducing morbidity and mortality from disease among persons being screened

## What is Screening – recap

- ❑ Application of certain procedures to populations by doctor initiative, with the aim of identifying asymptomatic disease or people at risk from it.
  - ❑ **Screening is a form of secondary prevention** i.e ; identifying pre-symptomatic disease (or risk factors) before significant damage is been done.
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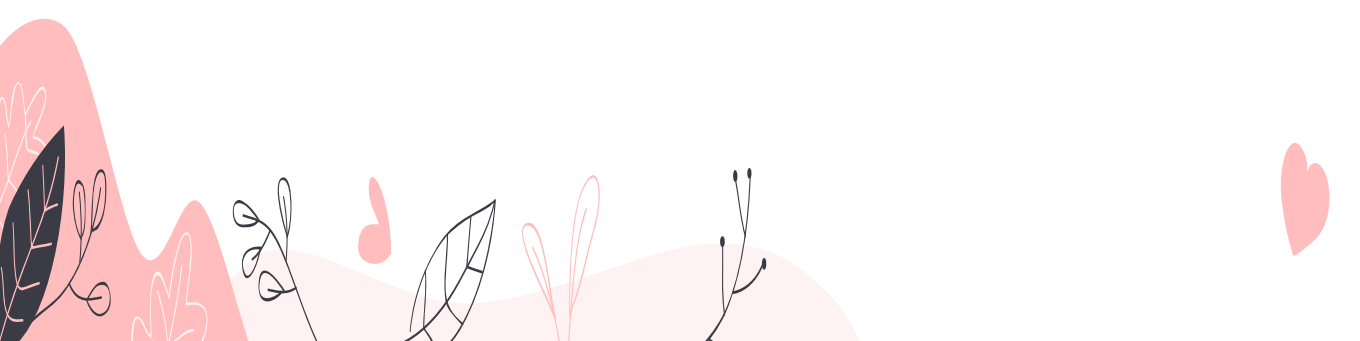


## Requirements of a good screening Program

(Wilson's criteria) \*The main message

1. **The condition must be:**
  - a. common. HTN, DM, Dyslipidemia
  - b. important.
  - c. diagnosable by acceptable methods.
2. **There must be a latent interval in which effective interventional treatment is possible.**
3. **Screening must be: Imp**
  - a. simple & cheap , case cost- effective.
  - b. continuous.
  - c. On a group agreed by policy to be high risk.

## What is Family Physicians Role in Screening

- A family physicians is the one who provides an **anticipatory care approach** for precluding problems.
  - This specialty puts all efforts to offer all appropriate forms of prevention **within the consultation** and the organizational **framework of primary care**.
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## What are common conditions or diseases? Where you can apply screening & Preventive?

| Common Screening Conditions   | Common Preventive Interventions  | Common Cancers screening tests in Family Practice Clinic  |
|---|--|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Hypertension Screening, detection and follow-up.</li> <li><input type="checkbox"/> Cervical Cytology</li> <li><input type="checkbox"/> Developmental surveillance.</li> <li><input type="checkbox"/> Well woman &amp; well man clinic.</li> <li><input type="checkbox"/> Visiting elderly people at home.</li> <li><input type="checkbox"/> Mammography .</li> <li><input type="checkbox"/> Serum lipid estimation.</li> <li><input type="checkbox"/> Screening psychiatric illness.</li> <li><input type="checkbox"/> Prostate Cancer screening</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Immunization /Vaccinations.</li> <li><input type="checkbox"/> Postmenopausal hormonal Replacement .</li> <li><input type="checkbox"/> Lifestyle Counselling.</li> <li><input type="checkbox"/> Advice on Smoking.</li> <li><input type="checkbox"/> Weight –watching</li> <li><input type="checkbox"/> Keeping fit and aerobic programs</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Cervical cytology.</li> <li><input type="checkbox"/> Mammography.</li> <li><input type="checkbox"/> Fecal occult blood.</li> <li><input type="checkbox"/> Prostate Specific Antigen.</li> </ul> |

## Some practical examples of prevention & Screening and how to approach

In elderly people

### 1. Falls Prevention like:

- Asses gait & balance training
- Home hazard intervention and follow-up
- Medication review /withdrawal (especially hypnotic , antidepressants)
- Osteoporosis risks assessment
- Assessing auditory & visual impairments

### 2. Mental health screening in older people:

- Assessing for depression
- Assessing living conditions and Social isolation
- Assessing Medications causing depression like Beta – Blockers, statins, calcium channel blockers.

### 3. Lifestyle advice

### 4. Stroke prevention

Osteoporosis

### Why to screen?

The BMD “bone mineral density” remains constant in women until menopause when it falls sharply for 5-10 years (estrogen withdrawal bone loss) , and more slowly there after (age –related bone loss)

### Preventive Strategies:

- Encouraging new bone formation
- Discouraging Bone Resorption
- Achieving a high BMD

### How

- Regular weight bearing exercises
- Avoidance of Smoking
- Calcium rich diet
- Calcium & Vit D supplementation (those find deficient)
- Measures at home to prevent falls.

## Some practical examples of prevention & Screening and how to approach

### Breast Cancer

- From age 50-74 with mammography every 2 years: **Recommendation B**
- From age 40 to 49: **Recommendation C**
- More than 75: **Recommendation I**

A — Strongly Recommended

B — Recommended

C — No Recommendation

D — Not Recommended

I — Insufficient Evidence to Make a Recommendation

### Cervical Cancer

The USPSTF recommends screening for cervical cancer in:

1- Women ages **21 to 65** years with cytology (Pap smear) every 3 years.

**Recommendation A**

2- Women ages **30 to 65** years who want to lengthen the screening interval, screening with a combination of cytology and human papillomavirus (HPV) testing every 5 years.

3- The USPSTF recommends against routinely screening women **older than age 65** for cervical cancer if they have had adequate recent screening with normal Pap smears and are not otherwise at high risk for cervical cancer (go to Clinical Considerations). **Recommendation D**

4- The USPSTF recommends against routine Pap smear screening in women who have had a total **hysterectomy** for benign disease **Recommendation D**

### Human Papillomavirus Immunization & Future of Cervical Screening:

- HPV Type 16 and 18 – the most carcinogenic of the papilloma viruses.
- They causes 70% of cervical cancers worldwide.
- Two vaccines types has been licensed for protection.

### Advantages of Vaccines:

- Offer high level of protection
- 98% seropositivity at 4.5 years follow-up
- A significant reduction in the number of precancerous changes in immunized individuals.
- Vaccine also protects genital warts

## Some practical examples of prevention & Screening and how to approach

### Colorectal Cancer

- The USPSTF recommends screening for colorectal cancer (CRC) using **fecal occult blood** testing, **sigmoidoscopy**, or **colonoscopy**, in adults, beginning at age **50 years and continuing until age 75 years**. The risks and benefits of these screening methods vary. **Recommendation A**
- FOB (yearly)
- COLONOSCOPY (every 10 year)
- CT COLONOGRAPHY (every 5 years)
- Flexible sigmoidoscopy (every 5 years)

### Prostate Cancer

- 75% of men with raised PSA had No prostate Cancer on Biopsy.
- More than 50% of patients with raised PSA will become Normal when repeated 6 weeks later.
- PSA is raised by UTI, BPH, recent ejaculation, vigorous exercise, prostatitis.
- PSA cannot differentiate aggressive from Indolent cancer.
- The USPSTF recommends against screening for prostate cancer in men **age 75 years or older**.
- Men aged **55-69** the decision to undergo periodic PSA should be an individual one.



## Vaccination

### جدول التطعيمات الوطني

| التطعيم<br>Vaccine   | الزيارة<br>Visit   |
|--|--|
| • BCG<br>• Hepatitis B   | • درن<br>• التهاب كبدي (ب)<br>• عند الولادة<br>• At Birth  |
| • IPV<br>• DTaP<br>• Hepatitis B<br>• Hib<br>• Pneumococcal Conjugate (PCV)*<br>• Rota**           | • شلل أطفال معطل<br>• الثلاثي البكتيري<br>• الالتهاب الكبدي (ب)<br>• المستدمية النزلية<br>• البكتيريا العقدية الرئوية*<br>• فيروس الروتا**<br>• عمر شهرين<br>• 2 months      |
| • IPV<br>• DTaP<br>• Hepatitis B<br>• Hib<br>• Pneumococcal Conjugate (PCV)*<br>• Rota**           | • شلل أطفال معطل<br>• الثلاثي البكتيري<br>• الالتهاب الكبدي (ب)<br>• المستدمية النزلية<br>• البكتيريا العقدية الرئوية*<br>• فيروس الروتا**<br>• عمر 4 شهور<br>• 4 months     |
| • OPV<br>• IPV<br>• DTaP<br>• Hepatitis B<br>• Hib<br>• Pneumococcal Conjugate (PCV)*              | • شلل الأطفال الضموي<br>• شلل أطفال معطل<br>• الثلاثي البكتيري<br>• الالتهاب الكبدي (ب)<br>• المستدمية النزلية<br>• البكتيريا العقدية الرئوية*<br>• عمر 6 شهور<br>• 6 months |
| • Measles<br>• Meningococcal Conjugate quadrivalent (MCV4)   | • الحصبة المفرد<br>• الحمى الشوكية الرباعي المقترن<br>• عمر 9 أشهر<br>• 9 months   |
| • OPV<br>• MMR<br>• Pneumococcal Conjugate (PCV)*<br>• Meningococcal Conjugate quadrivalent (MCV4) | • شلل الأطفال الضموي<br>• الثلاثي الفيروسي<br>• البكتيريا العقدية الرئوية*<br>• الحمى الشوكية الرباعي المقترن<br>• عمر 12 شهر<br>• 12 months                                 |
| • OPV<br>• DTaP<br>• Hib<br>• MMR<br>• Varicella<br>• Hepatitis A                                  | • شلل الأطفال الضموي<br>• الثلاثي البكتيري<br>• المستدمية النزلية<br>• الثلاثي الفيروسي<br>• الجدري المائي<br>• الالتهاب الكبدي (أ)<br>• عمر 18 شهر<br>• 18 months           |

## Team 437 group A

### What is Prevention?

Prevention includes a wide range of activities known as “interventions” aimed at reducing risks or threats to health.

| Prevention Types                  |   |
|-----------------------------------|---|
| What do they mean by these terms? |   |
| Primary                           | <ul style="list-style-type: none"><li><input type="checkbox"/> Primary prevention aims to prevent disease or injury <b>before it ever occurs</b>.</li><li><input type="checkbox"/> This is done by <b>preventing exposures to hazards</b> that cause disease or injury.</li><li><input type="checkbox"/> altering <b>unhealthy or unsafe behaviors</b> that can lead to disease or injury.</li><li><input type="checkbox"/> <b>increasing resistance</b> to disease or injury <b>WHENEVER</b> exposure occur.</li></ul>                       |
| Secondary                         | <ul style="list-style-type: none"><li><input type="checkbox"/> To reduce the impact of a disease or injury that has already occurred.</li><li><input type="checkbox"/> This is done by detecting and treating disease or injury as soon as possible to halt or slow its progress.</li><li><input type="checkbox"/> Encouraging personal strategies to prevent re-injury or recurrence.</li><li><input type="checkbox"/> Implementing programs to return people to their original health and function to prevent long-term problems.</li></ul> |
| Tertiary                          | <ul style="list-style-type: none"><li><input type="checkbox"/> To soften the impact of an ongoing illness or injury that has lasting effects.</li><li><input type="checkbox"/> This is done by helping people manage long-term, often-complex health problems and injuries (e.g. chronic diseases, permanent impairments) .</li><li><input type="checkbox"/> This helps to improve as much as possible their ability to function, their quality of life and their life expectancy.</li></ul>  |

## Prevention Types

### Examples

#### Primary

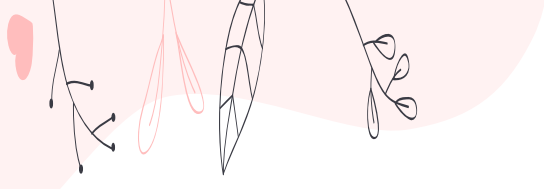
- Legislation and enforcement to **ban or control** the use of hazardous products (e.g. asbestos) or to mandate safe and healthy practices (e.g. **use of seatbelts and bike helmets**).
- Education about healthy and safe habits (e.g. **eating well, exercising regularly, not smoking**)
- Immunization** against infectious diseases.
- Removing the causal agents; like **sanitation measures** of nineteenth century.

#### Secondary

- regular exams and screening tests** to detect disease in its earliest stages (e.g. mammograms to detect breast cancer).
- daily, low-dose aspirins** and/or diet and exercise programs to prevent further heart attacks or strokes.
- suitably modified work** so injured or ill workers can return safely to their jobs.
- Identifying the pre-symptomatic diseases (or risk factors) before significant damage is done e.g screening for hypertension.

#### Tertiary

- cardiac or stroke **rehabilitation** programs.
- chronic disease** management programs (e.g. for diabetes, arthritis, depression, etc.).
- Limiting complications** /disability in patients with established disease by regular surveillance  
e.g : trying to prevent Diabetic problems by good control, regular funduscopy, foot care.
- Finding **support groups** that allow members to share strategies for living well.
- vocational **rehabilitation programs** to retrain workers for new jobs when they have recovered as much as possible



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### Setting a Local Screening Program

- Identify a problem that meets the **Wilson Criteria** .
- Auditing the records to see the baseline problems.
- How big is the problem – you know high risk group?
- Clearly define objectives.

### Define the Methods

1. Opportunistic ?
2. By Patient Invitation ?
3. By Patient Visiting

### Screening- an early detection of:

Disease

Risk factors



Susceptibility to disease in individuals who do not show any signs of disease

### What applied to Elderly

ELDERLY IS A CONDITION /STATE /AGE GROUP WHICH IS:

- A. common.
- B. important.
- C. diagnosable by acceptable methods.
- D. simple & cheap , case cost- effective.
- E. continuous.
- F. On a group agreed by policy to be high risk .

(Wilson's –Jungner criteria)



## Team 437 group A

### What is opportunistic Screening? Imp


- Taking the opportunity when the patient attends on another matter to screen him or her for desired characteristics .
- Simple and cheap to administer.
- No dependence on patients compliance .
- Targets those persons who will not usually attend for preventive advice services.

### Benefits of a good Screening Program

- Screening Tests often unearth diseases at an earlier stage.
- Improvement in Mortality & Morbidity rates.
- The possible economic saving on future treatment.

## Good Screening Program in a nut shell

| Knowledge of disease   | Knowledge of test   | Treatment for disease   | Cost considerations  |
|--|---|---|--|
| <ul style="list-style-type: none"><li>• The condition should be important</li><li>• There must be a recognizable latent or early symptomatic stage</li><li>• The natural course of the condition should be adequately understood</li></ul> | <ul style="list-style-type: none"><li>• Suitable test or examination</li><li>• Test acceptable to population.</li><li>• Case finding should be continuous</li></ul> | <ul style="list-style-type: none"><li>• Accepted treatment for patients</li><li>• Facilities for diagnosis and treatment available</li><li>• Agreed policy concerning whom to treat</li></ul> | <ul style="list-style-type: none"><li>• Costs of case finding economically balanced in relation to possible expenditures on medical care</li></ul> |



**Team 437 group A**

## **CERVICAL SCREENING**

### **What to Screen:**

Screening the Cervix for early detection of Cervical Cancer .

- Regular pap smear screening can decrease cervical cancer mortality risk up to 80%

### **Why to Screen – what is the Evidence:**

The natural History of Cervical Cancer involves several premalignant stages (e.g grades of dysplasia & carcinoma in situ ). Then progressing to high grade carcinoma



Evidence says , this can be detected by **Regular Cervical Screening** , several years in advance of frank Carcinoma.


### **What is Screening Tool for Cervix?**

#### **Pap Smear**

- A microscopic technique to examine vaginal debris - first
- The Pap smear has been the model for cancer screening.
- Pap tests aims to identify abnormal cells sampled from the transformation zone, the junction of ecto- and endocervix ,where cervical dysplasia and cancers arise.

#### **Pap Test dilemmas and Limitations**

- It is a Screening test to be administered to asymptomatic patients.
  - Not a diagnostic test to confirm or refute the suspicion of disease.
  - More than 50% of women who has cervical cancer had never been Pap smeared.
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### Effectiveness of Pap smear Test

- More sensitive of detecting Cervical Squamous cell malignancy.
- Squamous cell carcinoma of cervix is more prevalent than adenocarcinoma of cervix. .
- Cure rates were higher for women with cervical cancer detected by screening as compared to those diagnosed by symptoms.
- This screening tool can detect very early changes , if untreated, could lead to invasive cervical cancers over the course of years.

### Who are the high Risk group:

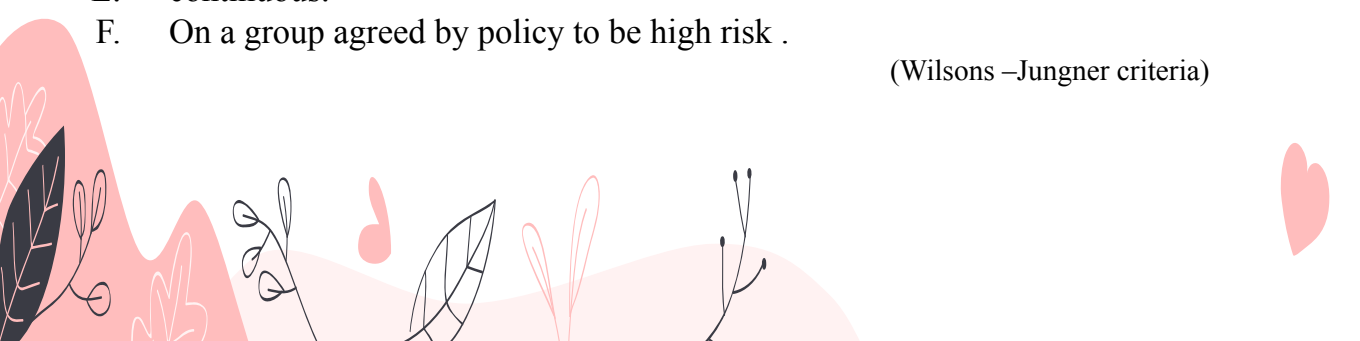
- Low socioeconomic class.
- Early age of first sexual intercourse.
- Early age of first pregnancy.
- Multiple sexual partners.
- Frequent pregnancies.
- HPV- type 16,18 and 33.
- Smoking doubles the risk of cervical cancer.

### WHY Cervical Cancer Screening

Cervical Cancer is a disease WHICH IS :

- common.
- important.
- diagnosable by acceptable methods.
- Test are simple & cheap , case cost- effective.
- continuous.
- On a group agreed by policy to be high risk .

(Wilson –Jungner criteria)



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### Potential Errors in sampling & evaluating Pap Smear

- Clinician may not sample the area of cervical abnormality.
- Abnormal cells may not be plated on the slide.
- Cells may not be adequately preserved with fixative.
- Cytopathologist may not identify the abnormal cells .
- The cytologist may inaccurately report the findings.

### Cervical Screening Intervals: important


- All women should receive their first invitation for routine screening at age of 25.
- In younger age range cervical screening interval have been reduced from 5 to 3 years

| Age group (years) | Frequency of Screening  |
|-------------------|---|
| 25                | First invitation  |
| 25-49             | 3 yearly  |
| 50-64             | 5 yearly  |
| 65 +              | Only those who are not screened till age of 50 or had recent abnormal |

### Role of Family Physician in Cervical Screening :

- Should have an effective call –and –recall system for inviting women registered with them for screening.
- Patient should ensure to keep their correct contact details with Family physician.
- During family planning clinics, any women with overdue smears and had no recent cervical smears done , should be offered smears.





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### Limitation of Cervical Screening Tests:

- A false -negative rate of about 10% for carcinoma in situ. (even necrotic tumors can give a negative results)
- A false –positive rate of about 5 % ( smears showing mild dysplasia).
- Sampling problems: the squamocolumnar junction not always accessible.
- **Possible causes which may upset interpretation like;**
  - Menstruation. □ Pregnancy. □ Contraceptive pills.
  - Intrauterine device. □ Polyps.

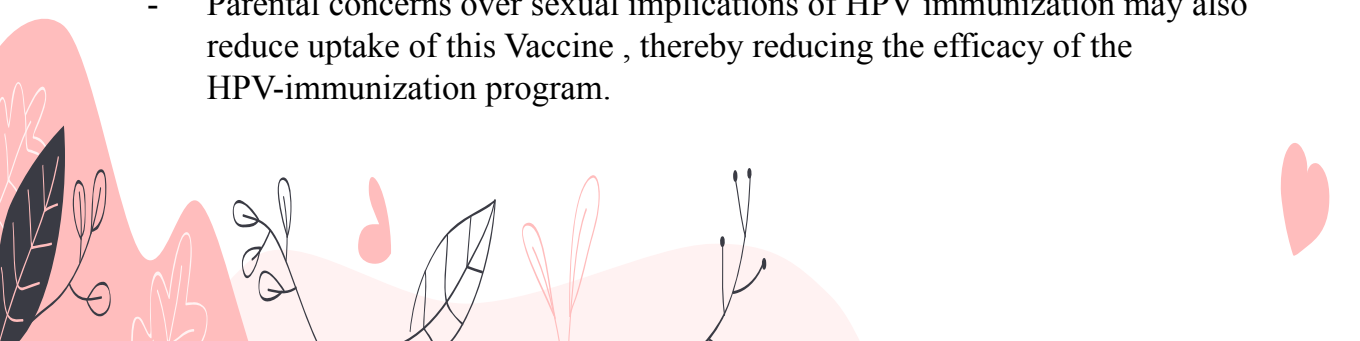
### Human Papillomavirus Immunization & Future of Cervical Screening


- HPV Type **16** and **18** the most carcinogenic of the papilloma viruses.
- They causes 70 % of cervical cancers worldwide.
- Two vaccines types has been licensed for protection.

#### Advantages of Vaccines:

- Offer high level of protection .
- 98% seropositivity at 4.5 years follow-up.
- A significant reduction in the number of pre-cancerous changes in immunized individuals.
- Vaccine also protects genital warts.

#### Issues of HPV-Vaccines

- In spite of the Vaccine the Cervical Screening program will continue b/c clinical trial data has shown that it will not protect all HPV types that cause cervical cancer
  - Parental concerns over sexual implications of HPV immunization may also reduce uptake of this Vaccine , thereby reducing the efficacy of the HPV-immunization program.
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## **SCREENING FOR BREAST CANCER**

### **The size of the Problem :**

- **The major form of Cancer among women.**
- Among 20% of female cancer deaths , it is the most common cause of death in women aged **35-54**.
- **Women should start breast cancer screening at the age of 40 years**
- In UK , highest breast cancer mortality rate .

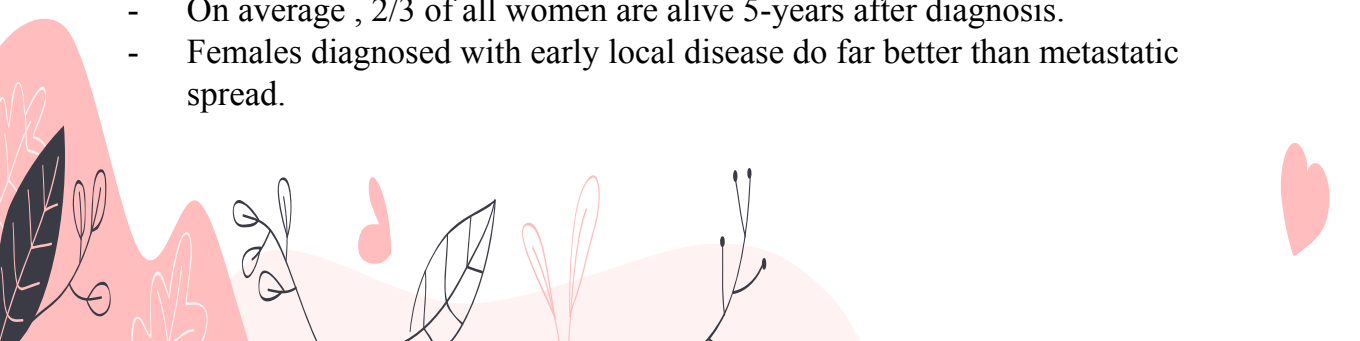
### **Risk Factors :**

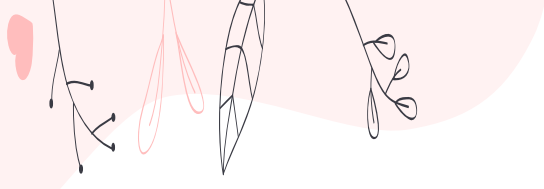
- Female sex.
- Previous breast cancer.
- Previous endometrial or ovarian cancer.
- Age ( peak incidence after age 45)
- Family History.
- Social class: one of the few cancers to have higher risk in more affluent classes
- Prolonged Estrogen exposure and increased Risk:
  - Early menarche & late menopause.
  - Estrogen used in HRT and OCP.
  - Obesity – increase endogenous estrogen.

### **What will decrease the Risk**

- Breaks in estrogen exposure due to childbirth
- Breastfeeding reduces breast cancer risk.

### **Prognosis**

- On average , 2/3 of all women are alive 5-years after diagnosis.
  - Females diagnosed with early local disease do far better than metastatic spread.
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## **WHY Breast Cancer Screening**

**Breast Cancer is a disease WHICH IS :**



- A. common.
- B. important.
- C. diagnosable by acceptable methods.
- D. Test are simple & cheap , case cost- effective.
- E. continuous.
- F. On a group agreed by policy to be high risk .


(Wilson's –Jungner criteria)

## **some psychological facts about mammography**

- All women undergoing screening experience ;anxiety about undergoing tests, awaiting results , experiencing indignity.
- Some may become even phobic.

## **Benefits of mammography**

- It detects breast lumps too small to be palpated , and 5- years survival is better for early disease.
  - The sensitivity of modern mammography is about 80% and specificity of 95%.
  - UK-Breast Cancer Screening Program screening decreases deaths by 48%.
  - Women chose to attend Screening v/s not to chose , there found 35% reduction in Breast cancer cases.
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## **SCREENING FOR PROSTATE CANCER**

- Common in ages > 65-years.
- 2nd most common cause of Cancer and Cancer deaths, in men both in UK & USA.
- About 10,000 men die annually of prostate cancer.

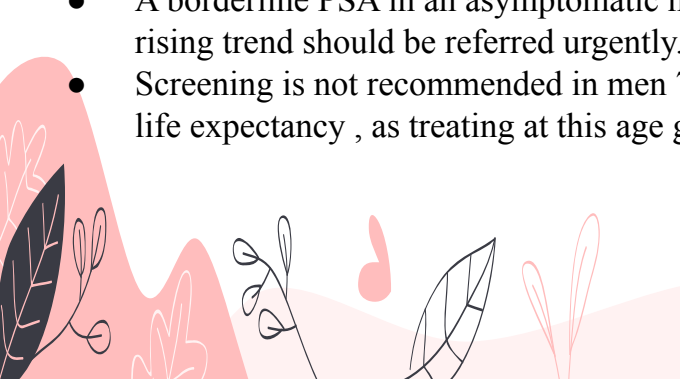
### **Screening:**


- Prostate –Specific Antigen (PSA) – the common name for all.
- Early localized cancer can be detected & treated .

### **Dilemmas in Measuring PSA**

- Digital Rectal Examination(DRE) has minimal effects on PSA levels – causes transient elevation of only 0.26-0.4d ng/ml ,PSA can be measured immediately after DRE.
- Ejaculation can increase PSA levels by up to 0.8 ng/ml, levels returns to normal within 48 hrs.
- After treating Bacterial Prostatitis , PSA returns to normal six to eight weeks after symptoms resolve.
- Acute Urinary retention may elevate PSA levels , levels decrease by 50% within one to two days following resolution.

### **Some FACTS about PSA**

- 75% of men with raised PSA had No prostate Cancer on Biopsy.
  - More than 50% of patients with raised PSA will become Normal when repeated 6 weeks later.
  - PSA is raised by UTI ,BPH , recent ejaculation ,vigorous exercise , prostatitis.
  - PSA cannot differentiate aggressive from Indolent cancer.
  - PSA raises with age & Age related Reference Values should be used.
  - A borderline PSA in an asymptomatic man should be repeated in 1-3 months .Any rising trend should be referred urgently.
  - Screening is not recommended in men 75 –years of age with less than 10-years life expectancy , as treating at this age group is unlikely to improve the survival.
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### DIGITAL RECTAL EXAMINATION (DRE)

- Can detect Cancers only in the Posterior & lateral aspects of prostate gland.
- Only 85% of the prostate cancers arise peripherally which can be detected by DRE.
- DRE has a sensitivity of 59% & specificity of 94%.
- Majority of cancers detected by DRE has already been clinically and pathologically advanced.

### DRE v/s PSA

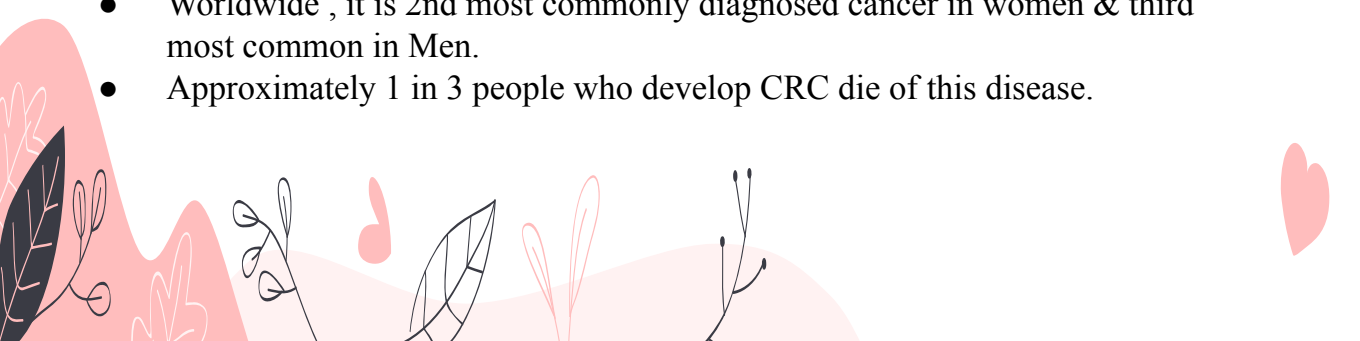
- Studies have reported , more than 45% cancers are detected only by PSA ; while only 18% are detected solely by DRE.
- Both PSA & DRE are somewhat complementary , and their combined use can increase the overall rate of detection.


### BIOPSY RISKS:

- Prostate Biopsies may also miss findings cancers and can rarely cause serious infections.
- Biopsy can lead to serious anxiety & physical discomfort.

## SCREENING FOR BOWEL CANCER

### Introduction:

- Colorectal Cancer(CRC) is a common & lethal disease.
  - 2nd leading cause of Cancer deaths.
  - Worldwide , it is 2nd most commonly diagnosed cancer in women & third most common in Men.
  - Approximately 1 in 3 people who develop CRC die of this disease.
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### SCREENING RATIONALE

- Removal of premalignant adenomas can prevent the cancer and removal of localized cancer can prevent CRC-related deaths.
- Progression from adenoma to carcinoma take at least 10-years on average.

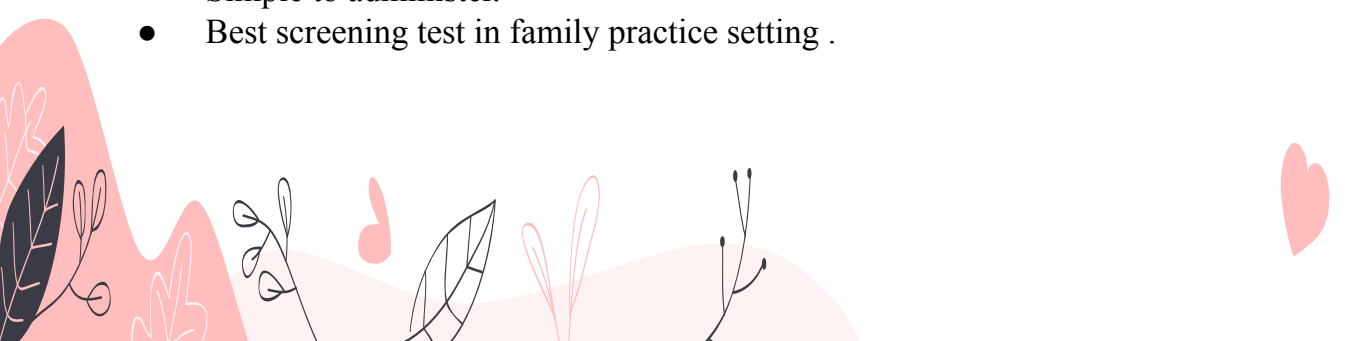
### Risk Factors affecting Screening recommendations


- Strong genetic risk :
  - Hereditary non-polyposis colorectal cancer
  - Familial adenomatous polyp.
- h/o of Prior colorectal cancer or polyps.
- Inflammatory Bowel disease.
- Family History .
  - 1 or more first degree relative with CRC.
  - 2 or more second degree relative with CRC.
- Race ( blacks)
- Gender ( Male > females )
- Abdominal Radiation

### Key Facts:

Twice a year screening for colorectal cancer using Fecal Occult Blood (FOB) tests reduces mortality by 16%.

### Advantages of FOB-Tests Screening :

- Non-invasive .
  - More cost effective with few colonoscopies needed for follow-up.
  - Simple to administer.
  - Best screening test in family practice setting .
- 



## Team 437 group A

### Disadvantages of FOB-Tests Screening:

- Inconvenience.
- Relative insensitivity – occult blood is not uniformly distributed in feces and some lesions bleed intermittently.
- Relative non-specificity-lesions other than cancer can generate positive tests.
- Compliance ( wide variation).


### How good is the TEST in practice


1. 2% of those screened will have a positive FOB and should be offered colonoscopy.
2. Of those undergoing Colonoscopy:
  - a. 10 % will have bowel Cancer.
  - b. 30% will have polyps.
  - c. 40% will have no abnormality.
3. Bleeding tends to occurs relatively late in the tumors natural history.
4. if the test is negative there is still a 1 in 200 chance of a cancer and 1 in 50 chance of an adenoma in the next 4 years.

### Who is eligible

- All men and women aged 60-69 should be checked every 2 –yearly with FOB.
- Any one Over-70s can also be included (optional)

### Risks :

- Perforation after colonoscopy ( 1 in 1500 cases).
  - Death (1 in 10000 cases)
  - Psychological Risks – immeasurable .
- 



## Team 437 group A

### Other Screening Tools

#### Colon Imaging .

- Double-contrast barium enema. ---- every 5 –years
- Computed Tomographic Colonography ---- every 5 years.

#### Endoscopies.

Flexible Sigmoidoscopy --- every 5-years.


Colonoscopy --- every 10- years.

### Well Person Assessment Clinic (Screening & Prevention Clinics) For female & male


#### Why to have these Clinics?

- This will attract patients who might not attend any consultation.
- Who don't want to visit any hospital unless they are sick .
- People who attend these clinics are Health conscious and in receptive frame of mind

### WELL PERSONS CHECK-UPS CLINICS Imp

- These Clinics Offer more time and more informal atmosphere.
  - Also avoids the real pitfalls of opportunistic screening , which is sometimes inconvenient. (busy clinic, patient is already sick).
  - Much potential for Health Promotion and Educating self help for common minor problems
  - Income may be boosted .
  - Greater satisfaction for patient and Doctors .
- 





Team 437 group A

## Why Most Screening & Prevention Program Fails

### Obstacles Or Approaches To Prevention & Screening Programs

Is it something about human behaviors or every body has his/ her own approach to life

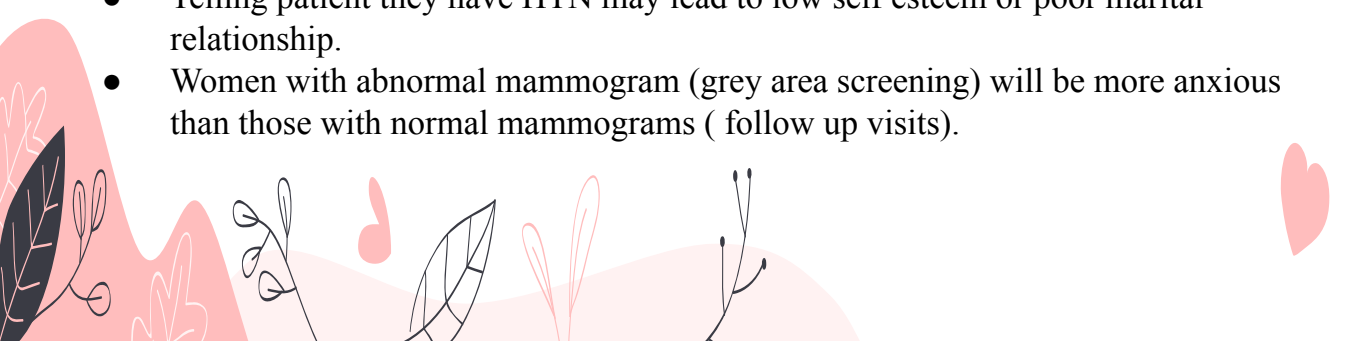
#### Patient Related

- It won't happen to me – The Ostrich Approach .
- You go when it's your turn and you can't change that –The fatalistic approach.
- I don't believe they know the true facts –The sceptic approach .
- May have to sacrifice the physical pleasures of life (smoking /shisha addictions )

#### Costs to patients/doctors / health care

- Unnecessary anxiety or even psychological harm .
- False reassurance. (some time)
- Economic costs.
- Doctors time & resource costs.
- Tests / follow up /further investigations and treatment

#### Psychological Costs of screening

- Always a concern that communication of negative results may be harmful – may lead to unhealthy lifestyle (less chances to return for follow up tests).
  - Telling patient they have HTN may lead to low self esteem or poor marital relationship.
  - Women with abnormal mammogram (grey area screening) will be more anxious than those with normal mammograms ( follow up visits).
- 

## Team 437 group A

### How to overcome these Patient –related obstacles

- Point out the disadvantages -the seriousness and the magnitude of the Risk.
- Point out the benefits - physical ,social ,financial.
- Anticipate and be prepared to discuss difficulties.
- Suggest coping strategies.
- Give simple advice and supplement with written information.

Final comments –you are screening not diagnosing

| SCREENING TEST  | DIAGNOSTIC TEST <b>Imp</b>   |
|---|--|
| Done to those who are apparently healthy or asymptomatic    | Done to those with suggestive signs and symptoms                                     |
| Applied to a group of individuals                           | Applied to a single person   |
| Results are based on one criterion                          | Results are based on the evaluation of a number of symptoms , signs & Investigations |
| Results are not conclusive                                  | Results are conclusive & Final   |
| Less accurate<br>Less expensive<br>Not a basis of treatment | More accurate<br>More expensive<br>Basis of treatment /                              |

### Final comments –you are screening not diagnosing

#### **BUT IT IS APPLIED TO CONDITIONS WHICH ARE :**

- A. common.
- B. important.
- C. diagnosable by acceptable methods.
- D. simple & cheap , case cost- effective.
- E. continuous.
- F. On a group agreed by policy to be high risk .

(Wilson –Jungner criteria)

## QUESTIONS

**1- Which of the following statement(s) about primary prevention is or are true?**

- A- Aims to reduce the prevalence of disease by treating new cases earlier
- B- Aims to reduce the incidence of disease by preventing new cases of disease occurring.
- C- Aims to reduce the complications and consequences of disease in new cases.
- D- All of the above

**2- Which of the following is accurate regarding the USPSTF recommendations for cervical cancer screening?**

- A- Women aged 21 to 30 years should undergo annual screening for cervical cancer with human papillomavirus (HPV) testing alone or in combination with cytology
- B- Initial screening for cervical cancer in women should begin at age 19 years
- C- Screening for cervical cancer with cytology (Pap smear) every 3 years is recommended in women aged 21 to 65 years
- D- Women who have had a hysterectomy with removal of the cervix and who do not have a history of high-grade precancerous lesions or cervical cancer should still undergo annual cervical cancer screening

**3- Which of the following is accurate regarding the USPSTF recommendations for colorectal cancer screening?**

- A- Screening for colorectal cancer should begin at age 45 years
- B- Colonoscopy or CT colonography should be repeated annually in patients aged 55 to 75 years
- C- Annual testing with guaiac-based fecal occult blood testing in patients aged 50 to 75 years is one recommended screening strategy
- D- Flexible sigmoidoscopy should be repeated every 10 years in patients aged 65 to 85 years

**4- Which of the following program represents a secondary level of prevention?**

- A- Rehabilitation
- B- Vaccination
- C- Mammogram in high risk females
- D- Advertisements through television

1-B  
2-C  
3-C  
4-C

## QUESTIONS

**5- Which of the following is accurate regarding the USPSTF recommendations for breast cancer screening?**

- A- Annual breast cancer screening mammography is recommended in women aged 45 to 65 years
- B- Biennial breast cancer screening mammography is recommended in women aged 50 to 74 years
- C- Digital breast tomosynthesis is recommended as a primary screening method for breast cancer in women younger than 50 years
- D- Adjunctive screening for breast cancer using MRI or ultrasonography is recommended in women identified as having dense breasts on an otherwise negative screening mammogram

**6- Which of the following is accurate regarding the USPSTF recommendations for prostate cancer screening?**

- A- Men older than 70 years should undergo annual prostate-specific antigen (PSA) testing for prostate cancer screening
- B- Men older than 55 years should undergo annual digital rectal examination (DRE) alone for prostate cancer screening
- C- Screening for prostate cancer should begin in men aged 50 years with either DRE or PSA
- D- Routine PSA-based screening for prostate cancer is not widely recommended by the USPSTF, especially in men who do not indicate a preference for screening

**7- Teaching a group of recently diagnosed diabetic clients how to recognize hypoglycemic and hyperglycemic reactions, is an example of:**

- A- Primary prevention
- B- Secondary prevention
- C- Tertiary prevention
- D- None of the above

**8- Local hospitals offering monthly cholesterol screenings to the public, is an example of:**

- A- Primary prevention
- B- Secondary prevention
- C- Tertiary prevention
- D- None of the above

5-B  
6-D  
7-C  
8-B