



# Public Health

Title : *Concepts of Prevention  
& control.*

Lec no : *3. Part two*

Done By : *Dania Abdullah*

وَقُلْ رَبِّ زِدْنِي عِلْمًا



# Concepts of Prevention and Control

## L3 Part „2“

Associate Professor Dr Eman A. Al-Kamil  
Community Medicine  
College of Medicine  
Hashemite University





# Modes of Intervention

- **(i). Health Promotion**
- **(ii). Specific Protection**

\* الدكتور أول ال دقيقة  
من الريبكورد راجعت Part 1  
بشكل سريع ، الأحسن نركز  
فيهم في حال قالت حال جديد  
أنا حاشه لآله.



# ● Specific Protection

- **“ Efforts directed toward protection against specific diseases.”**
- **OR**
- **“ The provision of Conditions for normal Mental & Physical Functioning of the Human beings & in Group.it includes the Promotion of Health , Prevention of Sickness , & Care of Individuals .”**



# Intervention

- **Immunization**
- **Use of specific nutrients**
- **Chemoprophylaxis**
- **Protection against occupational hazards**
- **Protection against accidents**
- **Control of General Environment**
- **Avoidance of allergens etc.**

# Cont...

Post-exposure vaccination ⇒ Rabbits vaccination  
← انذكر بالحاضرة، لمابقة

measles, mumps &  
rubella vaccine

- Use of Specific immunization (BCG, DPT, MMR vaccines) Polio vaccination, Influenza B vaccination, TB vaccine ← Diphtheria & Tetanus

Chemoprophylaxis (tetracycline for Cholera, dapson for Leprosy, Chloroquine for malaria, etc.,) Systemic infection (contagious) → Contact individuals

Use of specific nutrients (vitamin A for Children, iron folic acid tablets for Pregnant mothers)

- Protection against accidents (Use of helmet, seatbelt, etc.,)
- Protection against occupational hazards.
- Avoidance of allergens.

Protection from air pollution.

① \* العمال اللذي بيستظوا

بمعاول الاسببستوس

② \* بهامان عازلة للصوت للعمال

اللذي بيستظوا بأماكن صاحبه للحماية

من فقدان السمع

\* المخطط الالي بسلايد رقم (16) عليهم وتعبيرا لكلام الدكتور عاهد السلايد مخصص بالمخطط.



## 3. Secondary Prevention

- It is defined as “ An Action which halts the progress of a disease at its incipient stage and prevents complications.” \* in secondary prevention there's [risk factors, pathological changes but with NO signs & symptoms]
- The specific interventions are:
  - (i) early diagnosis (e.g. screening tests, breast self examination, pap smear test, radiographic examinations etc.) & Treatment → human Papilloma virus
  - (ii) Referral

\* لو كان عننا Positive screening test هانا ما يعني إنه المريض عنده المرض 100% لازم نأكد بالتشخيص عن طريق Complementary tests.

يعني وجود كتلة (mass) بتدي المريضة لا يعني إنه (tumor) لازم نزل Biopsy.

\* mammogram (screening test) ⇒ بكشف عن وجود كتلة

\* Biopsy (diagnostic test) ⇒ حدد إذا هي ورم سرطاني

\* Secondary prevention: an action which holds the progression of a disease at the incipient stage (المراح الأولى) & prevent any complications & irreversible pathological changes.

Ex: periodic typhoid screening tests for individuals who work in restaurants in case they were carriers to *Salmonella typhi*.

\* هذ فحوصات دورية للطايف، في حال كان عننا فحص ايجابي لأحد الطايف، لازم نزل

فحص لكل اللي أكلوا عندهم، لو بينا نقسم الاجراء هانا، بنقسمه لـ Primary & secondary prevention.

- Screening for the infected worker (secondary prevention)
- Tracing the contact of infected individuals (primary prevention)

← الناس اللي أكلوا عندهم يعني

TB screening tests examples:

(1) mass radiography

(2) tuberculin skin test → could be positive due to (1) infection

(2) vaccination





# Cont...

- **Secondary prevention attempts to arrest the disease process, restore health by seeking out unrecognized disease and treating it before irreversible pathological changes take place, and reverse communicability of infectious diseases.**
- **It protects others in the community from acquiring the infection and thus provide at once secondary prevention for the infected ones and primary prevention for their potential contacts.**

# Objectives of Secondary Prevention

- ❖ **Complete cure and prevent the progression of disease process.**
- ❖ **To prevent the spreads of disease by curing all the known cases.**
- ❖ **To prevent the complications and sequel of disease.**
- ❖ **To shorten the period of disability.**



# (i) Early Diagnosis



- **The Disease complications can be prevented & Health can be Restored by Diagnosing the Disease at it's Early stages & by providing the adequate Treatment according to the Health problem. Includes :**

- ✓ **Arrests/Stops the Disease Process**
- ✓ **Restore the Health**
- ✓ **Treat the Disease before Irreversible pathological changes occur.**
- ✓ **Reverse the Communicability of infectious Disease.**



Early  
Diagnosed  
Better  
Prognosis



- It is directed at the period between the onset of disease and the normal time of diagnosis and aims to **reduce the prevalence of disease**.
- Secondary prevention can be applied only to diseases in which the natural history includes an early period when it is easily identified and treated, so that progression to a more serious stage can be stopped. ⇒ Ex: Breast cancer it has a pre-clinical stage: there is a breast mass with no signs/symptoms.
- The two main requirements for a useful secondary prevention program are a **safe and accurate** method of detecting the disease – preferably at a preclinical stage – and effective methods of intervention. not all diseases can be detected by screening methods.

- Screening for **Cervical cancer** provides an example of the importance of secondary prevention. *For sexually active women.*
- Studies supported the value of such screening programs, which are now widely applied in many **developed countries**.

- Other examples of secondary prevention measures that are widely used include:

1. **testing of eyesight and hearing** in school-age children, + *Preschool age children*

2. screening for **high blood pressure** in middle age,

+ *لازمًا همزة (٣-٤) قراءات لضغط الدم ونمط الحياة life-style قبل ما نأكد التشخيص.*

3. testing for **hearing loss** in factory workers, and

*hypertension is a silent disease  
وعادةً بيكتشفه بسبب المضاعفات اللي ناتجة عنه  
لعل مهم ينقل فوهان دورية للكشف عنه  
بمراحل مبكرة قبل ظهور المضاعفات.*

4. **skin testing and chest radiographs** for the diagnosis of tuberculosis.

5. **Screening tests** for workers who work in hazardous occupations.



# 4. Tertiary Prevention

- It is used when the disease process has advanced beyond its early stages. → it should be early.
- It is defined as “all the measures available to reduce or limit impairments and disabilities, and to promote the patients’ adjustment to irremediable conditions.”
- Intervention that should be accomplished in the stage of tertiary prevention are disability limitation, and rehabilitation.
- Intervention in Late Pathogenesis Phase.  
↳ Could be surgical or medical interventions.

## Tertiary prevention [Administration of treatment]

Tertiary prevention is aimed at reducing the progress or complications of established disease and is an important aspect of therapeutic and rehabilitation medicine.

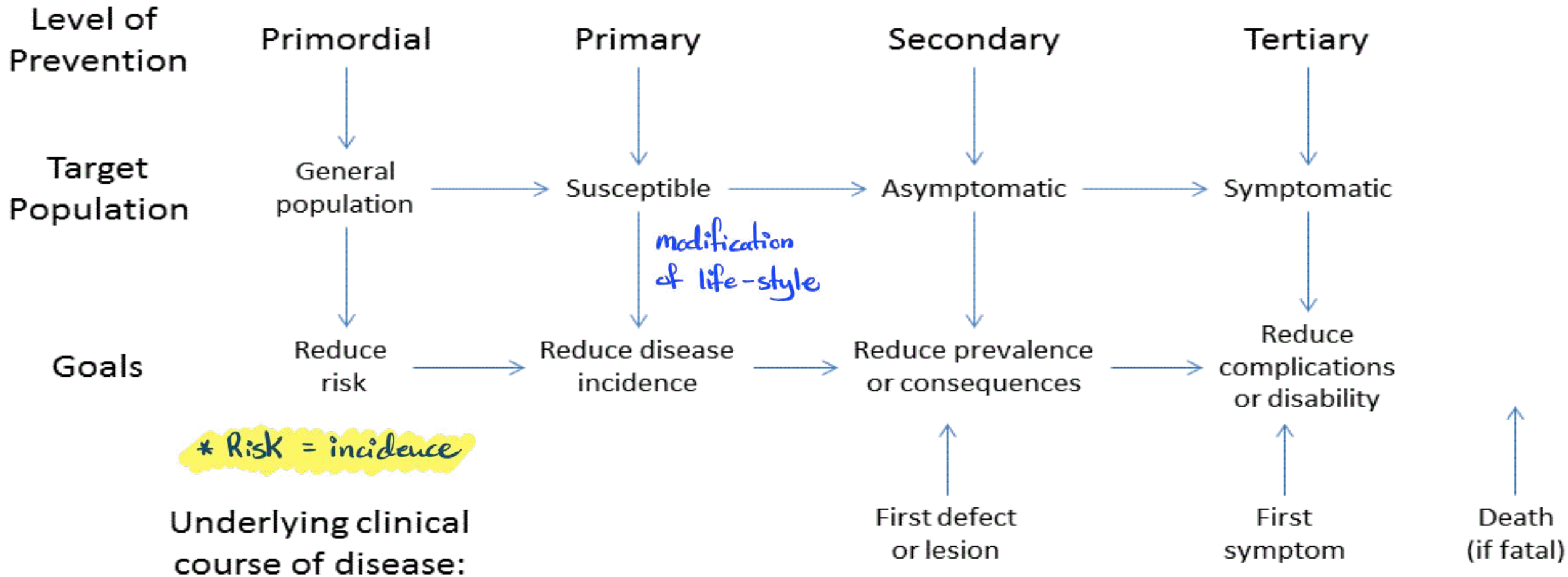
It consists of the measures intended to:

1. **reduce impairments and disabilities,**
2. **Minimize suffering** caused by poor health and
3. **promote patients' adjustment** to incurable conditions.

\* In Rheumatic fever; after the treatment of the patients they should be given multi-injections to prevent the recurrence of the disease

Tertiary prevention is often difficult to separate from treatment, since the treatment of chronic disease has as one of its central aims the **prevention of recurrence.**

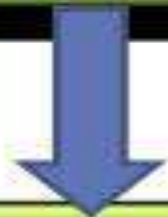
# A Classification of Preventive Strategies







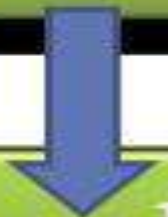
Disease



Impairment



Disability

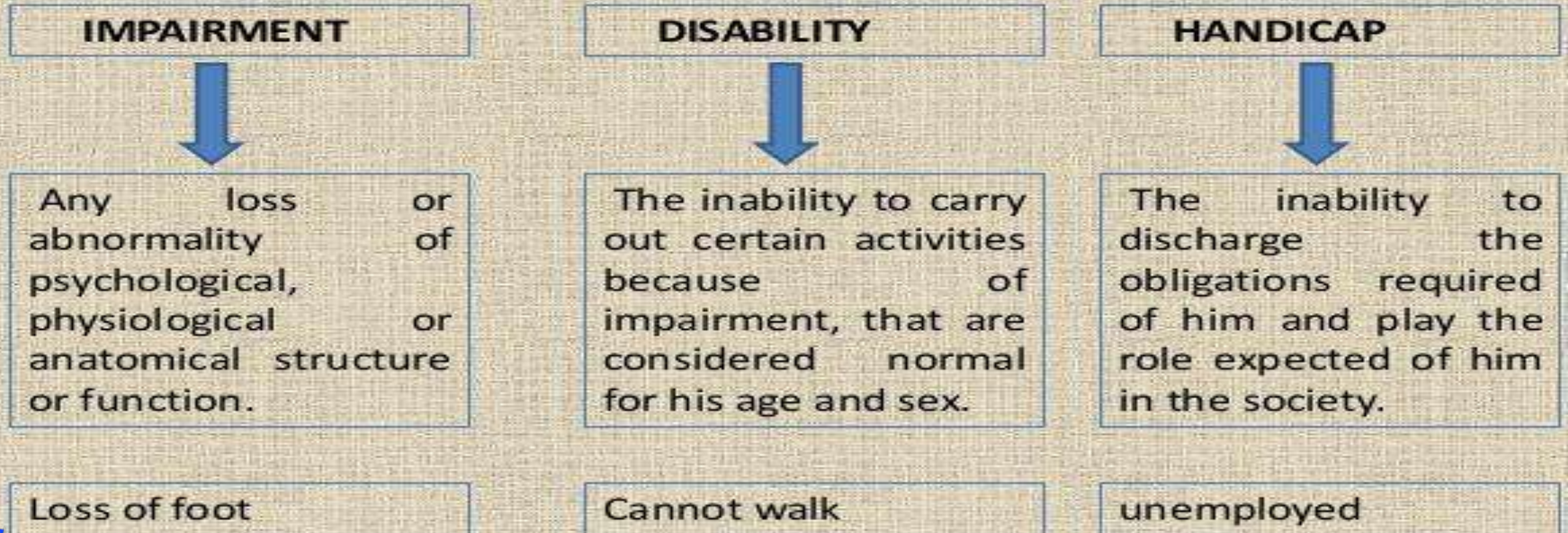


Handicap



**Impairment and Disability**  
Impairment is a partial or complete loss of normal function of organ such as eye, ears, brain, extremities, heart and lungs. Impairment may cause disability.  
For More Information, Visit: [www.painassist.com](http://www.painassist.com)

# Tertiary Prevention



Ex:  
\* diabetic foot  
\* any refractive error } in diabetes patients

\* The impairment affects their social role = handicap

Another example: Myocardial Infarction  
it's an impairment in the muscle of the heart;  
disturbance in the anatomy & physiology.

- if the effect of myocardial infarction results in, the patients not being able to perform their daily activities [walking, walking up the stairs due to dyspnea]  $\Rightarrow$  disability.
- if this disability progressed to affect their ability to work and being productive  $\Rightarrow$  Handicap.



# Disability Limitation

- To prevent or halt the transition of disease process from Impairment & Handicap.
- **Impairment**: any loss or abnormality of psychological, physiological or anatomic structure or function.
- **Disability**: any restriction or lack of ability to perform an activity in the manner considered normal for a human being.
- **Handicap**: disadvantage for a given individual, resulting from impairment or disability, that limits or prevents the fulfillment of a role that is normal for that individual



• it could also be after MI.



## (ii) Rehabilitation

- Rehabilitation is “ the combined and coordinated use of medical, social, educational, and vocational measures for training and retraining the individual to the highest possible level of functional ability.” *after surgical treatments ex: hip fracture. ⇒ physical therapy*
- Requires cooperation from different sections of society.



# REHABILITATION

□ Rehabilitation has been defined as the ‘combined and coordinated **use of medical, social, educational and vocational measures** for training and retraining the individual to the highest possible **level of functional ability**”

Areas of concern in rehabilitation:

- Medical Rehabilitation
- Vocational (Occupational) Rehabilitation
- Social Rehabilitation
- Psychological



**The Health and Social Care Act 2008**

*Code of Practice for health and adult social care on the prevention and control of infections and related guidance*



# Examples of Rehabilitation

- Establishing schools for the blind.
- Exercises in neurological disorders  
*Patients who had a stroke → Physiotherapy / speech therapy ...*
- Prosthetic restoration of lost tooth
- Reconstructive surgery in Leprosy.  
*الجذام*  
*results in destruction and loss of tissues*
- Change of profession for a more suitable one and modification of life in general in the case of TB, etc.,





*Thank you*