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Department:  
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REPUBLIC OF SOUTH AFRICA

# MDR-TB Diagnosis and Management

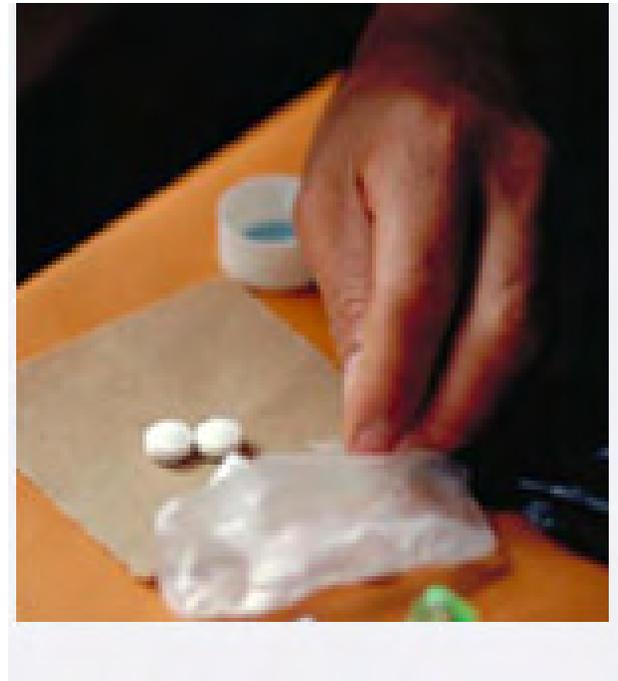
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# Definition

- **MDR-TB caused by strains of Mycobacterium Tuberculosis resistant both Rifampicin and Isoniazid with or without resistance to other drugs.**
- **Single Isoniazid or Rifampicin resistance is not MDRTB**
- **MDR TB is a laboratory diagnosis**

# Development of MDRTB

- **Inappropriate chemotherapy**
- **Interrupted drug supply**
- **Poor patient management**
- **Poor patient adherence**
- **Abuse of TB drugs**
- **Poor TB control programme**



# Types of Drugs Resistance

- **Primary Drug Resistance**
- Resistant in cultures from patients with no history of previous Tuberculosis treatment
- **Acquired Drugs Resistance**
- History of previous episode of susceptible TB

# When to suspect MDR TB

- **In All Re-treatment patients**
- **All treatment failures**
- **Treatment adherent patient whose condition deteriorates**
- **Patient whose smear does not convert after three months of treatment**

## **When to suspect MDR TB cont...**

- **Patient whose smear becomes positive again after initial conversion**
- **Patient whose smear is negative but not responding to treatment**
- **Symptomatic contacts of an MDR TB patient**

# Diagnosis of MDR-TB

- **In All Re-treatment patients** a culture and DST needs to taken
- Treatment failures on new TB cases
- HCW are at risk when Infection Control measures are not in place
- MDR TB contacts

# Prevention of MDR TB

- **Ensuring cure of new smear positive patients the first time**
- **Ensure that Re-treatment cases complete their treatment**
- **Compliance with management guidelines as laid by NTCP**
- **Excellent adherence during the intensive phase and continuation phase**

## **Prevention of MDR-TB cont...**

- **Uninterrupted supply of TB drugs to treatment points is crucial**
- **Treatment is free of charge**
- **Supervision of therapy**

# Management Principles

- **Counseling done before treatment is commenced**
- **Patient sign consent form**
- **MDR TB is treated for 18 -24 months**
- **Six months initial phase hospitalisation**
- **Patients are diagnosed at PHC centers and peripheral Hospitals**
- **Management structures to be in place**

## **Management Principles cont...**

- **Dedicated MDR TB wards**
- **Management teams with clear management responsibilities**
- **Management teams to have capacity and expertise**
- **Treatment logistics should be in place**
- **OPD Clinic conducted at MDR TB Unit**
- **Patients to be accompanied to the clinic**

# **MDR TB Unit requirements**

**Sputum for AFB results for TB culture and DST**

- **FBC & ESR tests results**
  - **U&E and LFT results**
- **Pregnancy test results**
- **Recent chest X-rays**
- **Baseline audiometric results**
- **Transfer letter form and Proof of counseling**
- **Patient Card “Green card “**
- **One month supply of ARV ‘s**

# MDR-TB Ward

Standard precautions to be adhered to at all times

## **Inpatients:**

- To be nursed with doors closed and windows open
- Sputum collection to take place in the open air
- Isolate especially during the night

## MDR-TB Ward cont...

- Patients coughing should be isolated as far as possible
- Cover mouths with tissue or toilet paper whilst coughing
- Staff to wear N95 respirators –Impermeable to droplet nuclei
- Patients to wear surgical masks-contain aerosols
- Movement to other sections limited
- Patients to stay outside in the sun

## **MDR-TB Ward cont...**

- **UVGI lights to be installed if possible**
- **Used materials e.g. tissue should be disposed of as biohazardous waste**
- **Ongoing education –transmission – pathogenesis**
- **Awareness of risk situations and their avoidance**
- **Increased risk of acquiring MDR TB –HIV pos**

## Health Care Workers and MDR TB

- Recognised risk for health care workers
- Risk assessment
- High risk – Prolonged closed contact with infectious smear pos MDR TB patients
- Medium risk –Primary health care centers involved
- Sputum collection on TB suspects
- Low risk –Health care support staff e.g. cleaners porters and admin staff

## Principles to be adhered to in high risk environments only

- Disease monitoring programme for HCW`s
- Employment profiles and baseline screening of employees
- Annual screening for those who are permanent
- Quarterly record of health status
- Post exposure monitoring

# Challenges

- Late diagnosis of TB patients
- High Re-treatment rates
- High interruption rates
- Under detection of MDRTB
- High TB burden
- High HIV prevalence

## Challenges cont...

- 30% of MDRTB cases had 4 drug resistant strains
- 2<sup>ND</sup> line drugs less effective ,expensive and toxic
- Treatment is prolonged – 18 – 24 months
- Patients require prolonged hospitalization
- Counseling not done
- Incorrect diagnosis of patients
- Transport

# Conclusion

Drug resistance in TB is a man-made consequence, therefore MDR-TB can be prevented with a strict adherence to the treatment regimens



# We can stop TB

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