MedBlog18.com

FMGE Premium

Community Medicine

Comprehensive Notes for FMGE Premium

Contact:
Email: dipan.samanta@yahoo.com
Our Web portal: http://medblog18.com/fmge

DEFINITIONS / TERMINOLOGY:

- **SENSITIVITY:** Ability of a Test (Screening Test) to identify correctly all those who have the disease.
  - Sensitivity = True Positive (TP)
- **SPECIFICITY:** Ability of a Test (Screening Test) to identify correctly those who do not have the disease.
  - Specificity = True Negative (TN)
- **INCIDENCE:** Number of New Cases in a defined population in a specified period of time.

Incidence is a **Rate** & is Expressed **per 1000.**

$$\text{Incidence} = \frac{\text{No. Of New Cases of a Disease in aYear}}{\text{Total Population at Risk}} \times 1000$$

- **PREVALENCE:** Total Present/ Current number of Cases, including Old Cases & New Cases, over a Point of Time or a period of time is called Prevalence.
  - Prevalence is a **Proportion**, expressed in **Percentage.**
  - Types: Point Prevalence & Period Prevalence
  -

$$\text{Prevalence} = \frac{\text{Total no. Of cases in a year(Old \& New)}}{\text{Total Population}} \times 100$$

- **LEVELS OF PREVENTION:**
  - **Primordial Level of Prevention:** Prevention of Development/ Emergence of Risk Factor(s) of a Disease.
    - Modes of Intervention: Mass Education & Individual Education
    - Best Level of Prevention for Non-communicable Diseases.
    - Primordial Prevention = Primary Prevention in Purest Form.
  - **Primary Level of Prevention:** Preventive actions taken Prior to the Onset of a Disease.
    - Modes of Intervention: Health Promotion (Health Education, Environmental Modification, Nutritional Interventions, Lifestyle Changes, Behavioural Changes etc), Specific Protection(Vaccines, Contraception etc)
  - **Secondary Level of Prevention:** Prevention applied after the onset of the Disease & Halts the Progress of the Disease.
    - Modes of Intervention: Early Diagnosis, Treatment etc
    - Imperfect Tool in Control of Transmission of Disease.
    - More Expensive & Less Effective as compared to Primary Prevention

- National Health Programmes of India Mostly Operate at this Level (Secondary Level of Prevention)
- **All Screening Tests belong to Secondary Level of Prevention.**

- **Tertiary Level of Prevention:** Prevention applied after the Advancement of the Disease beyond the Early Stage, aimed at minimizing the Suffering, Disability & Impairment due to the Disease.
  - Modes of Intervention: Disability Limitation, Rehabilitation
  - Tertiary Prevention takes place at the late Pathogenesis Phase.

Examples of Different Levels of Prrevention

Primordial	**Primary**	**Secondary**	**Tertiary**
Promoting 'No-Smokinng' as Smoking causes Lung Cancer	Vaccination, Iodine Supplementation in Goitre-prone Area etc	Screening for Breast-Cancer, Sputum Smear Examination for AFB, Peripheral Smear Examination for Malarial Parasite etc	Crutches in Polio-myelitis Patients, Hearing-aid to a Patient with SNHL etc

- **COHORT STUDY:**
  - Prospective/ Forwardly directed Study
  - Used for Hypothesis Testing
  - Other Names: Incidence Study, Prospective Study, Cause to effect Study, Risk-factor to Disease Study, Follow-up Study, Exposure to Outcome Study etc
  - Type: A. Prospective/ Concurrent/ Current Cohort Study:
    Example: Framingham heart Study, Doll & Hills Study
    On the Relationship between Smoking & Lung Cancer.

    B. Retrospective Cohort Study:
    Example: Study on the Relationship between Fetal-monitoring & Neonatal Death;
    Study of the Causative Relationship between PVC-exposure & Angiosarcoma of Liver etc.
    [**Note: Here, in Retrospective Cohort Study, the Event/ Disease has already taken place but the study is conducted in the Forward Direction only,ie, Cause to Effect/ Risk-factor to Disease/ outcome.**

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

_____

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

Email us: medblog18@rediffmail.com

Since the StudyAnalysis Starts/ is Launched after the Effect/ Event/ Disease takes place(Unlike normal/ usual Cohort Study, this particular type
of Cohort Study is termed as Retrospective/ Reverse Cohort Study]

C. Combined Prospective- retrospective Cohort Study/
Mixed Cohort Study:

Example: Court- Brown & Doll Study on Radiation- effect

Strength Associations: Relative Risk, Attributable Risk, Population Attributable Risk etc

- **CROSS-SECTIONALSTUDY:**
  - Gives Prevalence of a Disease, called as 'Snapshot of Population'
  - Useful for studying Chronic Diseases
  - Most Simple form of Observational Epidemiological Study

- **SENTINNEL SURVEILLANCE :** Used for Miised/ Drop-out Cases
- **INDEX CASE:** The First Case which comes to the notice of the Investigator.
- **PRIMARY CASE:** First Case that occurs in a population(being Studied)
- **SECONDARY CASE:** Case which develops from the contact of the Primary Case.

- **META-ANALYSIS:**
  - Systematic, Objective Review, employing Statistical methods to combine & summerize the Results of several Studies.
  - Highest Clinical Relevance
  - Forest Plot & Funnel Plot
  - Strength: Quantitative estimation, Confidence- interval
  - Disadvantage: GIGO, Apple & Orange Effect, File- drawer Effect

SCREENING

Screening of Disease

- Definition of Screening test: Is used to search for an unrecognized diseases or defect, in apparently healthy individuals, by means of rapidly applied tests, examinations or other procedures
- Screening versus Diagnosis:

	Screening	**Diagnosis**
Done on	Apparently healthy	Cases (signs / symptoms)
Applied on	Groups, populations	Individuals

Test results	Arbitrary & final	Not final, modifiable
Based on	One criterion (cut-off)	Signs, symptoms, lab findings
Cost	Relatively cheaper	Expensive
Time taken	Relatively rapid	Time-consuming
Accuracy	Relatively inaccurate	Accurate
Basis for treatment	Cannot be used as basis	Useful basis for treatment
Initiative from	Investigator	Case with complaint

- Examples of important screening tests used:

Screening Test(s)	Disease screened
Papanicolaou (Pap) smear test, VIA*	Cervical cancer
Breast self examination (BSE)	Breast cancer
Mammography	Breast cancer
Bimanual oral examination	Oral cancer
ELISA, RAPID, SIMPLE	HIV National AIDS Control Programme
Urine for Sugar, Random blood sugar	Diabetes mellitus
AFP (alpha feto-protein)	Developmental anomalies in fetus
Digital rectal examination (DRE)	Prostate cancer
Prostate specific antigen (PSA)	Prostate cancer
Fecal occult blood test	Colorectal cancer

(*Visual Inspection with 5% Acetic acid)

Principles of Screening (WHO): Suitability of a Disease for Screening (Criteria)

- The disease should be an important health problem
- There should be an effective treatment available for the disease

- Facilities for diagnosis and treatment should be available
- There should be a latent or early asymptomatic stage of the disease
- There should be a latent or examination for the diagnosis of disease
- Total population having the disease, i.e. cases: 'a + c' (True positive + False negative)
- Total population not having the disease. i.e. healthy: 'b + d' (False positive + True negative)

Results of Screening Test/Evaluation/Properties of a Screening Test

- Sensitivity: Ability of a screening test to identify correctly all those who have the disease (cases).

  Sensitivity: = a / (a + c) x 100 = TP / (TP + FN) x 100
- Specificity: Ability of a screening test to identify correctly all those who d not have the disease (healthy).

  Specificity: = d / (b + d) x 100 = TN / (TN + FP) x 100
- Positive predictive value (PPV): Ability of a screening test to identify correctly all those who have the disease, out of all those who test positive on a screening test

  PPV = a / (a + b) x 100 = TP / (TP + FP) x 100
- Negative predictive value (NPV): Ability of a screening test to identify correctly all those who d not have the disease, out of all those who test negative on a screening test

  NPV = d / (c + d) x 100 = TN / (FN + TN) x 100
- Percentage of false positives (FP):

  % FP = b / (b + d) x 100 = FP / (FP + TN) x 100
- Percentage of false negatives (FN):

  % FN = c / (a + c) x 100 = FN / (TP + FN) x 100

Positive Predictive Value (PPV)

1. Is best measure of validity
2. Usually expressed as sensitivity and specificity

- Discriminant validity: If not showing strong correlation between 2 variable

Criteria	MI present	MI absent
Positive ECG	300 [TP (a)]	100 [FP(b)]
Negative ECG	25 (FN (c)	75 [TN (d)]

$$\text{Sensitivity} = \frac{a}{a+c} \times 100 = \frac{TP}{TP+FN} \times 100$$

- $$\text{Sensitivity} = \frac{300}{300+25} \times 100 = 92\%$$

$$\text{Specificity} = \frac{d}{b+d} \times 100 = \frac{TN}{TN+FP} \times 10$$

- $$\text{Specificity} = \frac{75}{75+100} \times 100 = 43\%$$

$$\text{Positive predictive value (PPV)} = \frac{a}{a+b} \times 100 = \frac{TP}{TP+FP} \times 100$$

- $$\text{PPV} = \frac{300}{300+100} \times 100 = 75\%$$

$$\text{Negative predictive value (NPV)} = \frac{d}{c+d} \times 100 = \frac{TN}{FN+TN} \times 100$$

- $$\text{NPV} = \frac{75}{25+75} \times 100 = 75\%$$

Sensitivity > PPV OR NPV > Specificity

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

---

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

VACCINES

- **LIST OF LIVE- ATTENUATED VACCINES : (Important)**

a) BCG
b) OPV(Sabin / Oral)
c) Measles Vaccine
d) Mumps Vaccines
e) Rubella Vaccines
f) Yellow Fever Vaccine
g) Typhoral Vaccine
h) Live Plague Vaccine
i) Live Attenuated Plague Vaccine
j) Varicella Vaccine
k) Epidemic Typhus Vaccine

LIST OF KILLED- INACTIVATED VACCINES:(Important)

1. Pertussis Vaccine
2. IPV(Salk)
3. Rabies Vaccine
4. Cholera Vaccine
5. Meningococcal Vaccine
6. Killed Plague Vaccine
7. Killed Influenza Vaccine
8. Japanese Encephalitis Vaccine
9. KFD Vaccine
10. Tick-borne Encephalitis Vaccine

LIST OF SUBUNIT VACCINES- RECOMBINANT PROTEIN: (Important)

1. Hepatitis B Vaccine
2. Anti- HPV Vaccine
3. Lyme Disease Vaccine
4. Cholera Toxin B Vaccine

LIST OF SUBUNIT VACCINE- PROTEINACIOUS: (Important)

1. Acellular Pertussis Vaccine
2. Anthrax Vaccine

3. Inactivated Influenza Subunit Vaccine

LIST OF SUBUNIT VACCINES- POLYSACCHARIDE BASED:

1. Pneumococcal Vaccine
2. Meningococcal Vaccine
3. HiB Vaccine
4. Typhim-Vi Vaccine

LIST OF SUBUNIT VACCINE - TOXOIDS: (Important)

1. Diphtheria Vaccine
2. Tetanus Vaccine

LIST OF SUBUNIT VACCINES- GLYCOCONJUGATE:

1. Pneumococcal Vaccine
2. MenACWY Vaccine
3. HiB Vaccine

LIST OF COMBINATION VACCINES: (Important)

1. DPT Vaccine, DT VAccine, DPT-Typhoid Vaccine
2. MMR Vaccine
3. DPTP (DPT + IPV)
4. Pentavalent Vaccine (DPT + HepB + HiB)

- **LIST OF VACCINE- STRAINS: (Important)**

1. BCG Vaccine: Danish-1331 Strain
2. OPV/ IPV: P1, P2, P3 Strains (Mono/ Tri- valent)
3. Measles Vaccine: Edmonston Zagreb Strain (MC)
   Moraten Strain
   Schwartz Strain
4. Mumps Vaccine: Jeryl Lynn Strain
5. Rubella Vaccine: RA 273 Strain
6. Yellow Fever Vaccine: 17 D Strain
7. Varicella Vaccine: OKA Strain

8. JE- Vaccine: SA 14-14-2 Strain (INDIA)
P3 Strain (Beijing)
Nakayama Strain

9. Swine Flu Vaccine (Killed): A7/ California/ 2009 Strain
10. Malaria Vaccine: SPf 66 Strain (Lytic Coktail)
Pf 25 Strain
RTS, S/ASO1 (Mosquirix)

11. HIV Vaccine: mVA (Modified Vaccine Ankara) Strain
rAAV (Recombinant Adeno- associated Viral Vaccine) Strain
CTL- Strain
AIDSVAX Strain
Subunit Vaccine Strain

- **VACCINES CONTRAINDICATED IN PREGNANCY: : (Important)**

All Live Vaccines (Exception: Yellow Fever Vaccine)

- **VACCINES CONTRAINDICATED IN IMMUNOCOMPROMISED/ IMMUNOSUPPRESSED STATE: : (Important)**

All Live Vaccines

- **VACCINES CONTRAINDICATED IN HIV : : (Important)**

If the Patient is Asymptomatic, there's NO Contraindication but if the Patient is Symptomatic, All Live Vaccines are Contraindicated (Exception: MMR, Varicella, Zoster)

- **VACCINES CONTRAINDICATED IN FEVER: : (Important)**

Typhoid Vaccines(Typhoral, Typhim- Vi, TAB)

- **VACCINES CONTRAINDICATED TOGETHER: (Important)**

Yellow Fever & Cholera Vaccine

- **VACCINES CONTRAINDICATED IN PROGRESSIVE NEUROLOGICAL DISEASES: : (Important)**

Pertussis
(Vaccine is Not Contraindicated in Cerebral Palsy & Epilepsy Patients on medications)

- **ABSOLUTE CONTRAINDICATION OF KILLED VACCINES: : (Important)**

Severe General/ Local Reaction to Previous Dose.

- **COMPLICATIONS OF POLIO-VACCINE: : (Important)**

VAPP(Vaccine Associated Paralytic Poliomyelitis) [Very Rare; 1 case per 2.7 million Vaccines]
Occurs Most Commonly with P3
No Outbreak
Risk of VAPP becomes Lower with the Subsequent Doses as compared to the 1st Dose.

RABIES VACCINE(POST EXPOSURE PROPHYLAXIS):
Cell-cultured Vaccine Schedule: Day 0; Day 3; Day 7; Day 14, Day 28 (6 Doses)
Booster Dose on Day 90
Dose: 20 IU/ kg (Human Ig) & 40 IU/ kg (Equine Ig)

RABIES VACCINE(PRE EXPOSURE PROPHYLAXIS):
Schedule: Day 0; Day 7; Day 21/ Day 28

National Immunization Schedule

Eligibility	Vaccine/s
At Birth	BCG OPV – 0 Hepatitis – B
6 weeks of age	OPV – 1 **Pentavalent vaccine** – 1 **Rota virus** – 1 (in AP, Orissa, Haryana and HP only at present)
10 weeks of age	OPV – 2 **Pentavalent vaccine** – 2 **Rota virus** – 2 (in AP, Orissa, Haryana and HP only at present)
14 weeks of age	OPV – 3 **IPV** **Pentavalent vaccine** – 3 **Rota virus** – 3 (in AP, Orissa, Haryana and HP only, at present)
9 months of age	Measles Vitamin A – first dose
16 – 24 months of age	DPT – first Booster OPV booster Measles 2nd dose Vitamin A – second dose followed by every 6 months till 5 yr. age JE (in endemic districts only)
5 – 6 years of age	DPT second booster
10 and 16 years of age	TT

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

---

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

IMPORTANTS FROM COMMUNICABLE AND NON COMMUNICABLE DISEASES

Rubella (German Measles)

- Causative agent: RNA virus of Toga virus family
- Incubation period: 14-21 days (-18 days)
- Source of infection: Cases or subclinical cases
  - 'No known carrier state' for postnatally acquired rubella
- Mode of transmission: Air droplets(respiratory)
- Period of communicability: One week prior to onset of symptoms to one week after rash appears
- Immunity for Rubella:
  - Single attack confers lifelong immunity (Second attacks rare)
  - 40% of reproductive age group females are susceptible in India

  Infants protected till 4-6m age
- Most widely used test for diagnose Hem-agglutination Inhibition test (HAI)

Rubella Vaccine

- Type of vaccine: Live attenuated strain RA 27/3 [Vaccine virus non-communicable]
- Dose and route: 0.5 ml. subcutaneous
- Rubella vaccine is contraindicated in pregnancy and not given to infants
  - If female vaccinated for rubella: Advice against pregnancy for next months
- Priority groups for rubella vaccination in India:
  - 1st PRIORITY: 15-49 years reproductive age group females
  - 2nd priority: All children 1 – 14 years age
  - 3rd priority: Routine universal immunization of all children aged 1

Influenza: Pandemic (H1N1) Influenza 2009 [NEW NOMENCLATURE: Influenza A (H_1N_1) pdm 09]

- Declaration of Influenza pandemic by WHO: 11th June 2009
  - Problem statement India: 37000 cases, 1883 deaths [May 2009 – August 2010]
- Incubation period: 2-3 days.
- Clinical features:
  - Case of uncomplicated influenza: Influenza like illness (Fever, cough, sore throat, rhinorrhoea, headache, muscle pain), GIT illness (diarrhea WITHOUT dehydration)
  - Case of Complicated/severe influenza: Pneumonia, CNS involvement, Severe diarrhea, Secondary complications.
  - Exacerbation of existing chronic diseases
  - Signs of Progressive disease: Oxygen impairment / cardiopulmonary insufficiency, CNS complications, severe dehydration, invasive secondary bacterial infection
- Risk factors of severe disease:
  - Infants and children < 2 years
  - Pregnant females
  - COPD
  - Chronic cardiac disease
  - Metabolic disorders
  - Chronic renal/hepatic/neurological/hemoglobinopathies/immunosuppression INCLUDING HIV-associated disorders
  - Children on aspirin therapy
  - Persons aged > 65 years
  - Morbid obesity
- Laboratory diagnosis:
  - Most timely and sensitive detection: RT-PCR test

- Samples: Nasopharyngeal + throat swabs [Tracheal/bronchial aspirates in lower respiratory tract infection cases].
- Point-of-care/Rapid diagnostic tests: Not recommended

- Duration of isolation: for 7 days after onset of illness' OR 24 hours after rsolution of fever/respiratory symptoms whichever is longer
- Antiviral therapy:
  - In case of severe/progressive clinical illness: oseltamivir (if not available or resistance, use zanamivir)
  - High risk of severe/complicated illness: Oseltamivir Or Zanamivir
  - Not high risk OR Uncomplicated confirmed/suspected illness: No need of treatment
  - Dosage:

    Oseltamivir 75 mg BD x 5 days

    Zanamivir 2 inhalations (2 x 5 mg) BD x 5 days

Vaccines for Influenza

- Killed vaccines:
  - 2 doses, 3-4 weeks apart, 0.5 ml for age > 3 years, subcutaneous
  - 70 – 90% protective efficacy; duration 3 – 6 months
  - Is rarely associated with Guillain-Barre Syndrome (GBS)
- Live attenuated vaccines:
  - Stimulate (local + systemic immunity)
  - Antigenic variations presents difficulties in manufacture
- Newer vaccines:
  - Split – virus vaccine:

- Also known as ‘Sub-virion vaccine’
- Highly purified
- Lesser side effects
- Less antigenic – multiple injections required
- Useful for children

- Neuraminidase – specific vaccine:
  - Sub-unit vaccine containing N-antigen
  - Permits subclinical infection – long lasting immunity
- Recombinant vaccine:
  - Antigenic properties of virulent strain transferred to a less virulent strain
- Contraindications to Inactivated Influenza vaccines:
  - Severe allergy to chicken eggs
  - History of hypersensitivity / anaphylactic reactions previously
  - Development of Guillain-Barre Syndrome GBS within 6 weeks of vaccine
  - Infants less than 6 months age
  - Moderate-to-severe illness with fever

H1N1 (Swine flu) Vaccine

- H1N1 Inactivated vaccine: Single i/m injection
  - Strain: A/California/7/2009 (H1N1) V like strain
  - Storage temperature: $+2^0$ to $+8^0$ C

- Contraindications: History of anaphylaxis / severe reaction / Guillain Barre Syndrome, Infants < 6 months, Moderate-to severe illness with fever
- Protective immunity: Develops after 14 days (NOT 100%)

- H1N1 Live attenuated vaccine: Nasal spray
  - Side effects: Rhinorrhoea, nasal congestion, cough, sore throat, fever, wheezing, vomiting
- Priority groups in order for influenza vaccines:
  - Pregnant women
  - Age > 6 months with chronic medical conditions
  - 15-49 years healthy young adults
  - Healthy young children
  - Healthy adults 49-65 years
  - Healthy adults > 65 years

Epidemiological Indices for TB

Incidence of TB infection (Annual infection rate, Annual risk of infection- ARI): Percent- age of population under study who will be newly infected with TB among non-infected in 1 year

- Expresses attacking force of TB in community
- In developing countries 1% ARI corresponds to: 50 SS +ve cases per 100,000 general population
- Tuberculin conversion index is the 'best indicator for evaluation of TB problem and its trend in the community

- Prevalence of TB infection: Percentage of individuals who show a positive reaction to standard tuberculin test
  - Represent cumulative experience of population in recent as well as remote infection with TB
  - Tuberculin test is the 'only way of estimating the prevalence of infection in a population[F]

- Incidence of disease: Percentage of new TB cases per 1000 population
  - Reveals trend of problem, including impact of control measures and notification is reliable
  - Is the utility only in countries where high proportion of new cases are detected and notification is reliable
  - Sputum smear examination (AFB) is a reliable method for estimation[F]

- Prevalence of disease or case rate: Percentage of individuals whose sputum is positive for TB badilli on microscopic examination[F]
  - 'Best available practical index to estimate case load' in community[F]
  - Age specific prevalence is most relevant index

- Prevalence of suspect cases: Is based on X ray examination of chest
  - No epidemiological significance is attached to this index

- Prevalence of drug-resistant cases:
  - Is directly related to chemotherapy

- Mortality rate:

Was earlier used as an index of magnitude of TB problem

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

---

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

Tuberculin / PPD

- Tuberculin: Purified protein derivative (PPD) has replaced the antigen old tuberculin (OT)
  - Tuberculins have also been prepared from atypical mycobacterium: PPD-Y (M. Kansasii), PPD-B (Battey mycobacterium), Scrofula (M. scrofulaceum).
- Discovered by Von Pirquet (1907)
- PPD is a purer preparation, gives fewer non-specific reactions and is easier to standardize
  - Standard PPD (PPD-S) contains 50,000 tuberculin units (TU) per mg [1TU= 0.00002 mg PPD]
  - WHO advocates 'PPD-RT-23 with Tween-80
- Dosage: First strength (1TU), Intermediate strength (5TU), Second strength (250TU)
- Tuberculin test: Conversion is defined as an increase of 10 mm or more within a 2-year period, regardless of age.
- Tuberculin test in use:
  - Mantoux intradermal test: More precise test of tuberculin sensitivity
  - Heaf test: Quick, easy, reliable and cheap, preferred for testing large groups
  - Tine multiple puncture test: Unreliable, not recommended.
- Tuberculin test is the 'only way of estimating the prevalence of infection in a population.
- Tuberculin test has lost its sensitivity as an indicator of the true prevalence of infection, in countries with high coverage of BCG
  - True prevalence rates are exaggerated by infection with atypical mycobacteria and boosting effect of a second dose of tuberculin.

Mantoux Test (Tool for detection of TB infection) (Pirquet Test)

- Tuberculin test conversion: Increase of > 10 mm within 2 years period
- Dose[F]: 1 TU of PPD in 0.1 ml injected intradermally on forearm
- WHO advocated preparation[F]: PPD-RT-23 with Tween-80
- Is a test of prognostic significance?
- Has limited validity due to lack of specificity
- Readings: Result read after 72 hrs (3d)
- Only induration is measured:
  - Induration > 9 mm: Positive (Past OR current infection with TB) [F]
  - Induration 6-9 mm: Doubtful (M. tuberculosis or Atypical mycobacteria)
  - Induration < 6 mm: Negative[F]
- False Reactions:

False +ve Mantoux[F]	**False –ve Mantoux[F]**
Faulty technique of injection	Pre-allergic phase
Using degraded tuberculin	High fever
Too deep injection	Measles and chickenpox
Infection of other mycobacterium[F]	Whooping cough
Repeated tuberculin testing	Malnutrition
Prior BCG vaccine	HIV / AIDS
	Use of anti-allergic drugs
	Use of immunosuppressant

- Results of tuberculin test must be interpreted carefully: The person's medical risk factors determine at which increment (5 mm, 10 mm, or 15 mm) of induration the result is considered positive
  - 5 mm or more is positive in:

- HIV-positive person
- Recent contacts of TB case
- Persons with nodular or fibrotic changes on chest x-ray consistent with old healed TB
- Patients with organ transplants
- Other immunosuppressed patients

- 10 mm or more is positive in:
  - Recent arrivals (less than 5 years) from high-prevalence countries
  - Injection drug users
  - Residents and employees of high-risk congregate settings (e.g., prisons, nursing homes, hospitals, homeless shelters, etc.)
  - Mycobacteriology lab personnel
  - Persons with clinical conditions that place them at high risk (diabetes, pro-longed corticosteroid therapy, leukemia, end-stage renal disease, chronic malabsorption syndromes, low body weight)
  - Children less than 4 years of age, or children and adolescents exposed to adults in high-risk categories
- 15 mm or more is positive in:

  Persons with no known risk factors for TB[F]

Sputum Microscopy and Culture

- Sputum smear examination (Z-N Staining) by direct microscopy: is the 'method of choice as a case finding tool for tuberculosis.

Guidelines for Chemoprophylaxis in Children (less than 6 years)

(Who come in contact with a Sputum positive TB case)

IF	ADDITIONAL FEATURE	THEN
Symptoms of TB	Clinical declares TB	Category I DOTS given
Absence of symptoms of TB	Tuberculin test Not available	Isoniazid 5 mg/kg x 6 months
	Tuberculin test available	Isoniazid 5 mg/kg x 3 months, then do test If induration < 6 mm: Stop Isoniazid , Give BCG If induration > 6 mm: Continue Isoniazid for 3 months

The Stop TB Strategy

- A TB-FREE WORLD is the Vision
- Goal: To dramatically reduce the global burden of TB by 2015 in line with the Millennium Development Goals and the Stop TB Partnership targets
- Targets:
  - MDG 6, Target 8: Halt and begin to reverse the incidence of TB by 2015
  - Targets linked to the MDGs and endorsed by the Stop TB Partnership:

1. Reduce prevalence and deaths due to TB by 50% compared with a baseline of 1990 (by 2015)
2. Eliminate TB as a public health problem (by 2050)

The End TB Strategy (2016-2035)

- Vision: A world free of TB
  - Zero deaths, disease and suffering due to TB
- Goal: End the Global TB Epidemic

Indicators	Milestones		Targets	
	2020	2025	SDG	End TB

			2030	2035
Reduction in number of TB deaths compared with 2015 (%)	35%	75%	90%	95%
Reduction in TB incidence rate compared with 2015 (%)	20% (<85/100, 000)	50% (<55/100, 000)	80% (<20/100, 000)	20% (<85/100, 000)
TB-affected families facing catastrophic costs due to TB (%)	Zero	Zero	Zero	Zero

Poliomyelitis Situation 2015 INDIA [as of 2015]

- Total cases: NIL wild virus case [No case has been reported in India from 13 January 2011 onwards]

Poliomyelitis Disease

- Causative agent: Poliovirus (serotypes 1, 2 and 3)
  - P1 is MCC of epidemics
  - P2 is Most antigenic and Most easily eradicable (Eradicated on 20 Sep 2015)
  - P3 is MCC of VAPP (Vaccine associated paralytic poliomyelitis) – 1 per 1 million chance
- Reservoir: Man
- No chronic carriers
- MC clinical occurrence: Subclinical cases
  - For every 1 clinical case of polio: there are 1000 subclinical cases in children and 75 subclinical cases in adults
- Infectious material: Faeces and oro-pharyngeal secretions
- Period of communicability: 7-10 days before and after onset of symptoms
- Risk factors for precipitation of an attack:
  - Fatigue
  - Trauma
  - Intramuscular injections
  - Operative procedures (Tonsillectomy) esp. In epidemics of polio
  - Administration of Alum containing DPT vaccine
- Incubation period: 3 - 35 days (usually 7 - 14 days)

- Clinical presentation:

Clinical spectrum	Infections	Remarks
In apparent Subclinical	95%	No presenting symptoms; recognisable by isolation or rising antibody titres
Abortive polio Minor illness	4 - 8%	Mild or self-limiting illness: recognisable by isolation or rising antibody tires
Non-paralytic polio	1%	Synonymous with aseptic meningitis
Paralytic polio	< 1%	Descending asymmetric flaccid paralysis

Diagnostic Tests for Poliomyelitis:

- ✓ **Stool**
- ✓ **Throat**
- ✓ **Blood**

- Stool examination:
  - Isolation of wild poliovirus from stool is 'the recommended method for laboratory confirmation of paralytic poliomyelitis
  - Recommended in every case of AFP
  - Virus usually can be found in the faeces from onset to up to < 8 weeks after paralysis, with the highest probability of detection during the first 2 weeks after paralysis onset
  - Cerebrospinal fluid (CSF) examination:
    - Not recommended for purposes of surveillance
    - Not likely to yield virus, so collection is not recommended for culture
    - However, the CSF cell count, gram stain, protein, and glucose may be very useful in eliminating other conditions that cause AFP
- Throat examination:
  - Not recommended for purposes of surveillance
  - Not as likely as stool to yield virus and thus specimen collection from this site is not recommended
- Blood examination:
  - Not recommended for purposes of surveillance
  - Not likely to yield virus, and current serologic tests cannot differentiate between wild and vaccine virus strains
  - Interpretation of the serologic data can often be misleading

- Collection of blood specimens for culture or serology not recommended

HEPATITIS

Types of Viral Hepatitis:

Type	Causative agent	Incubation period	Common modes of transmission
Hepatitis A	Enterovirus 72 (picomavirus)	15 – 45 days	Faecal-oral, sexual, Parenteral
Hepatitis B	Hepadnavirus	45 – 180 days	Sexual, perinatal, percutaneous
Hepatitis C	Hepacivirus (Flavivirus)	15 – 160 days	Percutaneous
Hepatitis D	Viriods like	30 – 180 days	Sexual, perinatal, percutaneous
Hepatitis E	Calcivirus (alphavirus like)	15 – 60 days	Faecal-oral

Hepatitis A

- Causative agent: Enterovirus 72 (Picorna virus)
- Incubation period: 15 – 45 days
- Period of infectivity: weeks before to 1 week after onset of jaundice
- Sex distribution: Equal in both sexes
  - Children: More infected but mild or subclinical
- Reservoir: Human cases
- Modes of transmission:
  - Faecal oral (Most common)
  - Parenteral
  - Sexual
- Disinfectant:
  - Formalin
  - UV rays
  - Boiling for 5 min
  - Autoclaving

Hepatitis B

- Also known as 'Serum hepatitis'
- Causative agent: Hepatitis B virus (HBV) – a Hapdnavirus
  - Is double shelled DNA virus – 'Dane's Particle
  - Discovered by Bloomberg
- Reservoir of infection: Man case or carrier

- Incubation period: 45 – 180 days (6 weeks – 6 months)
  - Median IP < 100 days
- Modes of transmission: Blood borne, sexual, parenteral, perinatal
- Markers of Hepatitis B infection (in order of appearance in serum):
  - HBsAg Hepatitis B surface antigen:
    - Also known as 'Australia antigen'
    - First antigen to appear in serum – 'first evidence of infection'
    - 'Epidemiological marker of Hepatitis B infection'
  - HBcAg (Hepatitis B core antigen):
    - Alone does not appear in serum
  - HBeAg (Hepatitis B envelope antigen):
    - Is a secretory form of HBcAg
    - 'Indicates active viral replication'
    - 'Is a marker of infectivity for Hepatitis B'
    - Persistence beyond 3 months: Increased likelihood of chronic Hepatitis B
  - Anti-HBc (Antibody to Hepatitis B core antigen):
    - First antibody to appear in serum
    - IgM Anti-HBc indicates a diagnosis of acute Hepatitis B
    - IgG Anti-HBc persists indefinitely.
  - Anti-HBe (Antibody to Hepatitis B envelope antigen):
    - Signals 'stoppage of active viral replication'
  - Indicates 'end of period of infectivity'
  - Anti-HBs (Antibody to Hepatitis B surface antigen):
    - Last antibody to appear in serum
    - Signals 'recovery, end of period of communicability'

<u>Serologic patterns in Hepatitis B:</u>

HBsAg	Anti-HBs	Anti-HBc	HBeAg	Anti-HBe	Interpretation
+	-	IgM	+	-	Acute Hepatitis B
+	-	IgG	+	-	Chronic Hepatitis B + replication
-	+	IgG	-	+	Recovery from Hepatitis B
-	+	-	-	-	Vaccinated individuals

- Vaccines for Hepatitis B:
  - Plasma derived vaccine:
  - Is formalin inactivated sub-unit vaccine
  - Is based on HBsAg
  - Derived from carriers
  - rDNA yeast derived vaccine:
  - Recombinant DNA vaccine (genetically engineered)
- Hepatitis B Immunoglobulin:
  - Requited for immediate protection:
  - Surgeons, nurse, laboratory workers
  - Newborn infants of carrier mothers
  - Sexual contacts of acute Hepatitis B patients
  - Ideally administered within 6 hours (not later than 48 hours)
  - Dose: 0.05 – 0.07 ml / kg, 2 doses 30 days apart

Hepatitis E

- Other Names: Enterically transmitted hepatitis non-A, non-B [HNANB]
- Description: HEV is essentially a waterborne disease, transmitted through water or food supplies, contaminated by faeces
- Incubation Period: 2 – 9 weeks
- HEV in pregnancy: Fulminant form is common in Hepatitis E infection during Pregnancy (up to 20% cases) with a high case fatality rate (up to 80%)

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

---

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

Oral Rehydration Solution (ORS)

- ReSoMal Rehydration Solution for Malnourished: Is recommended for severely malnourished children

Composition (grams)	Osmolar concentration (mmol / litre)	
1 WHO ORS packet +	Sodium	45
2 litres water +	Potassium	40
50 grams sugar +	Chloride	70
40 grams electrolyte / mineral solution	Citrate	7
	Glucose	125
	Mg++ Zn++ Cu++	4
	Total	300

- NEW WHO RECOMMENDED Reduced Osmolarity Oral Rehydration Solution (Low Na ORS):

Composition in grams		Osmolar concentration (mmol/litre)	
Sodium chloride	2.6	Sodium	75
Potassium chloride	1.5	Potassium	20
Sodium citrate	2.9	Chloride	65
Glucose	13.5	Citrate	10
		Glucose	75
Total	20.5	Total	245

Cholera

- Cholera is an acute diarrhoe disease caused by Vibrio cholera

- Vibrio cholera: 'Gram-negative bacterium' that produces cholera toxin (entero-toxin, which act on c-AMP system of mucosal cells of epithelium lining of the small intestine to cause massive diarrhea)
  Classical biotype
  - EI Tor biotype [Serotypes: Ogawa (MC in India), Inaba and Hikojima]
  - Recently EI Tor Hybrid subtype has become MC in India
- Incubation period: 1 – 2 days (Few hours – 5 days)
- Reservoir: Human beings only
- Rice-water diarrhea
- Essentials for treatment of cholera: Water and electrolyte replacement (ORS)
- Laboratory diagnosis of Cholera: Stool and samples collected in the acute stage of the disease, before antibiotics have been administered, are the most useful specimens for laboratory diagnosis
  - Holding or transport media:
    - Venkataraman-ramakrishnan VR medium Cary-Blair medium: Mostly widely used medium
    - Autoclaved sea water
  - Enrichment media:
    - Alkaline peptone water
    - Monsur's taurocholate tellurite peptone water
  - Plating media:
    - Alkaline bile salt agar (BSA)
    - Monsur's gelatin Tauro cholte trypticase tellurite agar (GTTA) medium
    - TCBS medium: Mostly widely used medium

Guidelines for Cholera Control (WHO)

- Verification of diagnosis:
  - Identifying Vibrio cholera 01 in stools OF FEW PATIENTS is sufficient
  - It is 'not necessary to culture stools of all cases or contacts'
- Notification:
  - Cholera is a notifiable disease locally, nationally and internationally
  - Under International Health Regulations, Cholera is notifiable to WHO by national govt WITHIN 24 HOURS (no. of cases & deaths to be reported daily and weekly)
  - An area is declared free of Cholera when TWICE the IP has elapsed since last case

- ❖ Early case finding: through aggressive case search
- ❖ Establishment of treatment centres
- ❖ Rehydration therapy: through ORS
- ❖ Adjuncts to therapy: Only antibiotics may be used when vomiting stops

Treatment Group	Antibiotic of choice
Adults	Doxycycline
Children	Azithromycin
Pregnancy	Azithromycin
Chemoprophylaxis	Tetracycline

- Epidemiological investigations: General sanitation measures, epidemiological studies
- Sanitation measures: Water control, excreta disposal, food sanitation, disinfection
- Chemoprophylaxis:
  - Mass Chemoprophylaxis IS NOT ADVISED for total community; is only advisable for household contacts or a closed community
  - Drug of choice for Chemoprophylaxis: Tetracycline
  - To prevent one case of cholera, 10,000 persons need to be given Chemoprophylaxis
- Vaccination
- Health education: MOST EFFECTIVE prophylactic measure

Typhoid Fever

- Causative agent: Salmonella typhi
- Reservoir of infection: Man (cases and carriers)
  - Cases
  - Carriers
  - Incubatory carriers
  - Convalescent carriers: Excrete bacilli for 6 – 8 weeks1 year after clinical attack
  - Chronic carrier: Excrete bacilli for > 1 year after clinical attack
- Source of infection: faeces, urine of cases / carriers (primary source) and water, food fingers, files (secondary source)

- IP: 10-14 days
- Mode of transmission: Faeco-oral route, urine-oral route
- Clinical features:
  - Pathognomic feature: 'Pea Soup diarrhoea'
  - Splenomegaly, relative bradycardia, dicrotic pulse, abdominal distension and tenderness
  - Rose spots (2nd week)
  - Intestinal perforation (3rd week) may be one of the complications
- Laboratory Diagnosis: **'BASU' Mnemonic**

Test of diagnosis	**Time of diagnosis**	**Remarks**
Blood culture	1st week	Mainstay of diagnosis
Antibodies (Widal test)	2nd week	Moderate sensitivity & specificity
Stool culture	3rd week	
Urine Test	4th week	
Newer tests		
IDL Tubex test		Detects IgM antibodies
TYPHI DOT		Detects IgM &IgG antibodies
TYPHI DOT – M		Detects IgM antibodies
DIPSTICK TEST		Detects IgM antibodies

- Drug of choice:

  Cases: Cephalosporins (Ceftriaxone), Quinolones

  Carriers: Ampicillin / Amoxycillin + Probenceid x 6 weeks
- Immunisation for Typhoid:

- TYPHORAL (Live Oral Ty21aò) vaccine:
  - Contains > 10ò viable organism of attenuated S. typhiò
  - Schedule: One capsule each on days 1,3,5 (booster if 3 doses, one every 3 years)
  - Protection duration: 3 years
- TYPHIM Vi Vaccine:
  - Vi-Polysaccharide containing single dose i.m. or subcutaneous
  - Not given in age < 2 yrs
- TAB vaccine: Contains S.Typhi, S.paratyphi A and S. paratyphi B.

Dengue Fever and related Syndromes

- Dengue viruses are arboviruses (Flavivirus) which may result in:
  - Asymptomatic infection
  - Dengue
  - Dengue hemorrhagic fever (DHF)
  - Dengue shock syndrome (DSS)
- Dengue viruses have 4 serotypesò (Den 1,2,3,4)
- Vector for dengue: Aedes aegyptiò
- Reservoir: Man, Mosquitoò
- Incubation period: 5-6 days

<u>Classical dengue fever (DF)</u>

- Also known as break bone feverò
- Clinical featuresò: High grade fever (biphasic curve) with chills, intense headache, muscle and joint pain, retro-orbital pain, photophobia, colicky pain, abdominal tenderness, skin rash

<u>Dengue hemorrhagic fever (DHF)</u>

Severe form of DF, caused by infection with more than one dengue virus type

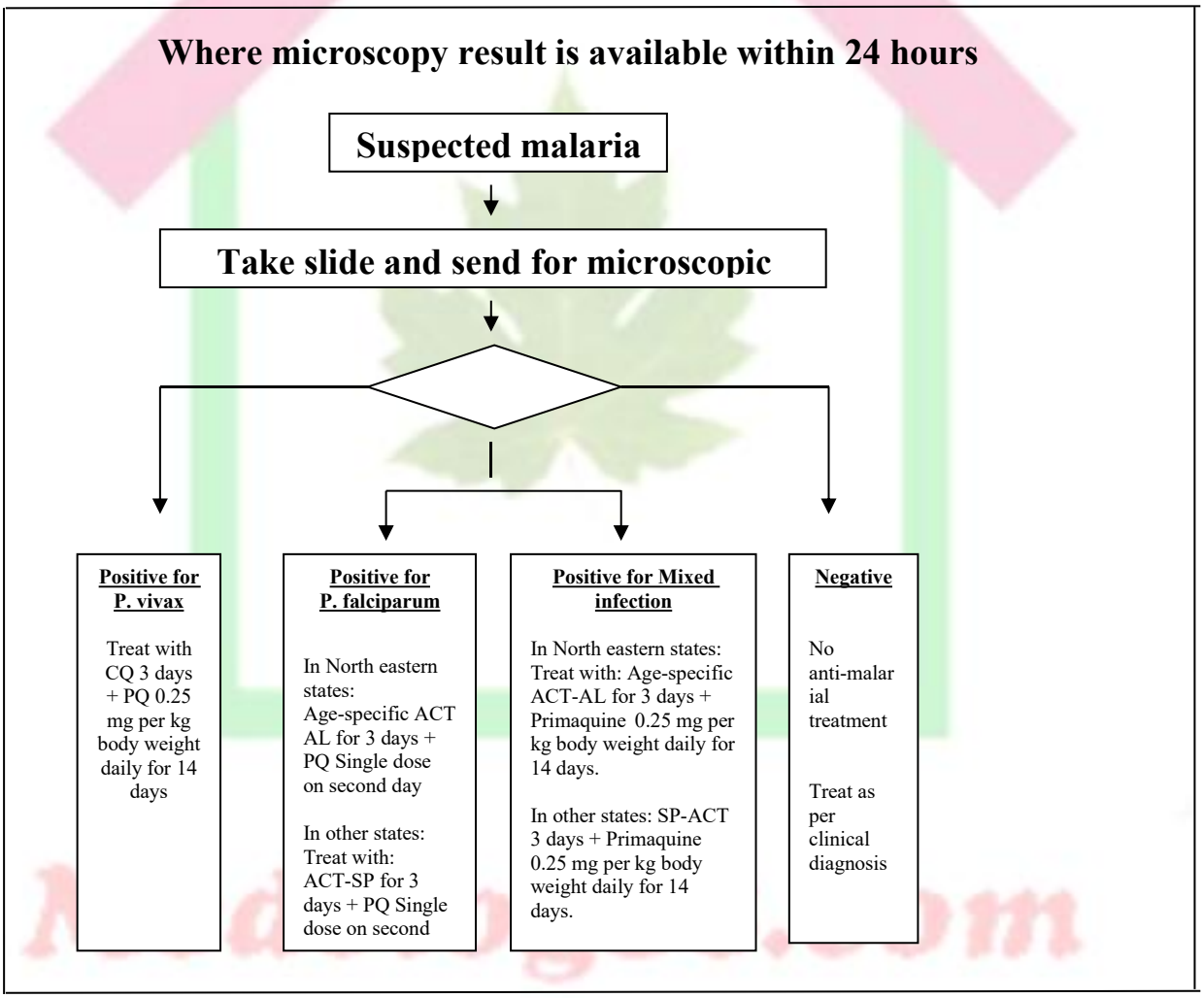
- Incubation period: 4 - 6 days
- Clinical features: Features of DF plus
  - Rash less common

- Rising hematocrit value (> 20% of baseline[ò])
- Moderate-to-marked thrombocytopenia (< 1 lac/mm^3)
- Hepatomegaly
- Positive tourniquet test[ò]: > 20 petechiae per sq. inch

– Diagnosis of DHF: Fever + hemorrhagic manifestations + thrombocytopenia + hemoconcentration or rising hematocrit.

Dengue shock syndrome (DSS)

– Diagnosis of DSSQ: DHF + shock [rapid and weak pulse, narrow pulse pressure (< 20 mm Hg)/ hypotension, cold clammy skin, restlessness]



ACT -AL - Artemisinin-based Combination Therapy- Artemether - Lumefantrine

ACT-SP - Artemisinin-based Combination Therapy (Artesunate+Sulfadoxine-Pyrimethamine)

CQ - Chloroquine; PQ - Primaquine

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

_____

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

Type of Contact, Exposure and Recommended Post-exposure Prophylaxis (PEP)

Category	Type of contact	Recommended PEP
I	Touching or feeding of animals Licks on intact skin Contact of intact skin with secretions/excretions of rabid animal/human case	None, if reliable case history is available
II	Nibbling of uncovered skin Minor scratches or abrasions without bleeding	Wound management Anti-rabies vaccine
III	Single or multiple transdermal bites or scratches, licks on broken skin Contamination of mucous membrane with saliva (i.e. licks)	Wound management Rabies immunoglobulin Anti-rabies vaccine

RICKETTSIAL DISEASES

Rickettsial Zoonoses

Description: Are a group of specific communicable diseases caused by Rickettsial organisms and transmitted to man by Arthropod vectors (Q fever excepted).

Disease	Agent	Vector	Reservoir
Typhus Group			
Epidemic Typhus	R. prowazekii[ò]	Louse[ò]	Humans[ò]
Murine typhus/Endemic Typhus	R. typhi	Flea	Rodents
Scrub typhus	R. tsutsugamushi[ò]	Trombiculid mite	Rodents
Spotted Fever Gp			
Indian Tick typhus	R. conori	Tick	Rodents, dog

RMSF	R. rickettsii	Tick	Rodents, dogs
Rickettsial pox	R. Akari	Mite	Mice
Others			
Q Fever	Coxiella burnetii	NIL	Cattle, sheep, goat
Trench	Bartonella Quintana	Louse	Humans

Neonatal Tetanus/8th Day Disease

- NNT has a marked seasonal incidence in India: > 50% of total annual cases occur in months of July, August and September
- Cleans for safe delivery for prevention of NNT:

3 Cleans	5 Cleans	7 cLEANS
Clean Hands	Clean Hands	Clean Hands
Clean delivery surface	Clean delivery surface	Clean delivery surface
Clean Cord care	Clean Cord cut/blade	Clean Cord cut/blade
	Clean cord tie	Clean cord tie
	Clean cord stump	Clean cord stump
		Clean Towel
		Clean water

  - 7 Cleans are proposed under RCH-III
  - Clean cord stump implies 'No Applicant'
  - Clean towel and clean water are for hands washing

Classification in Leprosy

Classification in Leprosy:

Ridley Jopling Classification[ò]	Indian Classification	Madrid classification
TT (Tuberculoid)	Indeterminate	Indeterminate
BT (Borderline Tuberculoid)	Tuberculoid	Tuberculoid
BB (Borderline borderline)	Borderline	Borderline
BL (Borderline Lepromatous)	Lepromatous	Lepromatous
LL (Lepromatous Leprosy)	Pure Neuritic[ò]	

(Pure Neuritic type Leprosy (Indian Classification): No skin lesions)

Operational Classification of Leprosy (according to skin smear positivity) to serve as a basis for Chemotherapy:

	Pauci bacillary Leprosy (PBL)	Multi bacillary Leprosy (MBL)
Bacteriological index	Bl < 2	Bl ≥ 2
Included types	Indeterminate Polar tyberculoid (TT) Border tuberculoid (BT)	Polar lepromatous (LL) Borderline lepromatous (BL) Mid-borderline (BB)
Multidrug theropy[ò] (MDT) in NLEP (Drugs)	Rifampicin 600 mg OAMS Dapsone 100 mg daily	Rifampicin 600 mg OAMS Dapsone 100 mg daily

		Clofazimine 300 mg OAMS, 50 mg daily
Treatment duration$^{\grave{o}}$	6 months	12 months
Follow up$^{\grave{o}}$ (after treatment)	Annually for 2 yrs	Annually for 5 yrs

(BI: Bacteriological Index; OAMS: Once a month supervised)

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

---

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

Epidemiology of Leprosy

- *Description*: Chronic infectious disease caused by Mycobacterium leprae and affecting mainly peripheral nerves
- Leprosy is a disease of 'high infectivity but low pathogenicity'
- Attack rate of Leprosy among house-hold contacts: 4.4 – 12%
- Youngest case of Leprosy in India: $2^1/_2$ month infant
- Leprosy is often known as a' Social disease'
- Is probably the oldest disease known o mankind

- *Mode of transmission of Leprosy*:
- Droplet infection (MC)
- Contact transmission (Direct skin to skin or indirect with soil / formites)
- Breast milk from lepromatous mothers
- Transplacental
- Insect vectors
- Tattooing needles

- *Diagnosis of leprosy under NLEP* is currently based on clinical grounds
  PBL: 1 – 5 skin lesions
  MBL: > 5 skin lesions

Important Points of Leprosy

- *Level of Leprosy for declaring it as a Public Health Problem*: >1 / 10,000
- *Elimination level of Leprosy*: <1 / 10,000
- India eliminated Leprosy in December 2005
- *Goal for Leprosy under National Health Policy 2002*: Elimination by 2005
- Leprosy exhibits 'both cell mediated immunity (CMI) and humoral immunity

Interpretation of Lepromin Test:

Reaction	Interpretation
++ to +++	Tuberculoid Leprosy (TT)
+ to ++	Maculo-anaesthetic Leprosy (MA)
- or + or +	Intermediate Leprosy (I)

+ to ++	Borderline Tuberculoid Leprosy (BT)
+ or +	Borderline Borderline Leprosy (BB)
- or +	Borderline Lepromatous Leprosy (BL)
-	Lepromatous Leprosy (LL)

Sexually Transmitted Infections (STIs)

Common sexually transmitted infections (STIs) :

STI	**Causative agent**
5 Classical STD's Syphilis Gonorrhoea Chanchroid LGV Donovanosis	 Treponema Pallidum Neisseria gonorrhoeae Hemophilus Ducreyi Chlamydia trachomatis Calymmatobacterium granulomatis
HIV / AIDS	Human immunodeficiency virus
Hepatitis A	Enterovirus 72 (Picornavirus)
Hepatitis B	Hepadnavirus (Dane's particle)
Hepatitis C	Hepacivirus
Hepatitis D	HDV
Genital and anal warts	Human Papilloma Virus
Scabies	Sarcoptes scabei
Pubic louse	Phthirus pubis
Trichomoniasis	Trichomonas vaginalis (MC in World)

Nutrition and Health

Recommended daily energy intake should be:

Group	Sub group	Energy (Kcal/day)	Proteins (g/day)
Adult male	Sedentary worker Moderate worker Heavy worker	2320 2730 3490	60 60 60
Adult Female	Sedentary worker Moderate worker Heavy worker Pregnancy Lactation (0-6 months) Lactation (6-12 months)	1900 2230 2850 +350 +600 +520	55 55 55 +23 +19 +13
Infants	0-6 months 6-12 months	92/kg 80/kg	1.16/kg 1.69/kg

Reference Indian man and woman:

	Reference Indian Man	Reference Indian Woman
Age	18-29 years	18-29
Weight	60 kg	55 kg
Height	1.73 metres	1.61 metres
BMI	20.3	21.2
Others	Free from disease, physically and mentally fit for active work, engage in 8 hours in occupational work, 8 hours in bed, 4-6 hours of sitting and roaming, 2 hours of walking and in active recreation or household duties.	

Important points about proteins:

- Protein content in soyabean is highest and it is 43 gm% per 100 gm.
- It is recommended that protein should contribute for approximately 15-20% of total daily energy intake.
- Net Protein Utilization:
  - Proportion of ingested proteins that is retained in the body under some specified conditions for the growth and maintenance of the tissues
  - Best indicator of protein quality for recommending the dietary protein requirement.
  - NPU provides a complete expression of protein quality.
  - NPU of selected food items:
    - Egg - 96 (**Egg is reference protein**)
    - Cow milk - 81
    - Soyabean - 55
    - Ground nut - 50
- Limiting amino acids in some food items:
  - Cereals - threonine and lysine

- Pulses - Methionine and cysteine
- Maize - Tryptophan and lysine

- Essential Amino Acids (EAA): these are not synthesized in adequate amounts in the body. They are
  - Phenylalanine
  - Valine
  - Threonine
  - Tryptophan
  - Isoleucine
  - Methionine
  - Histidine
  - Arginine
  - Leucine
  - Lysine

Important points about fats and carbohydrates

- Linoleic acid is the basis of production of EFA (essential fatty acid).
- EFA deficiency leads to Phrenoderma (toad skin)
- ω-6:ω-3 Fatty acid ratio in diet is ideally recommended to be 1:1 to 4:1 (Ideal fat)

Vitamin Deficiency

Vitamin	Chemical name	Disorder in deficiency
Vitamin A	Retinol, retinoid, carotenoid	Xerophthalmia
Vitamin B1	Thiamine	Beri-beri Wernicke's korsakoff psychosis
Vitamin B2	Riboflavin	Ariboflavinosis
Vitamin B3	Niacin Niacinamide	Pellagra
Vitamin B5	Pantothenic acid	Burning feet syndrome
Vitamin B6	Pyridoxine Pyridoxamine Pyridoxal	Anemia
Vitamin B7	Biotin	Dermatitis, enteritis
Vitamin B9	Folic acid Folinic acid	Megaloblastic anemia Neural Tube Defects
Vitamin B12	Cyanocobalamin Hydroxycobalamin Methylcobalamin	Megaloblastic anemia
Vitamin C	Ascorbic acid	Scurvy

Vitamin D	Ergocalciferol Cholecalciferol	Rickets, osteomalacia
Vitamin E	Tocopherols Tocotrienols	Hemolytic anemia in newborn
Vitamin K	Phylloquinone Menaquinone, menadione	Hemorrhagic disease of newborn

Important points about Vitamins

- Under National Immunization Schedule (NIS), vitamin A is given
  - 1 lac IU at 9 months age
  - 2 lac IU at every 6 months thereafter till the age of 5 years
  - A total of 17 lac IU is given.
- First clinical sign of vitamin A deficiency is conjunctival xerosis
- First clinical symptom of vitamin A deficiency is Night blindness
- Pellagra is characterised by 4D: Diarrhoea, Dementia, Death, Dermatitis.
- An adult tablet of IFA contains: 100 mg elemental iron and 500 mcg Folic acid - should be given for 100 days minimum in pregnancy
- An pediatric tablet of IFA contains: 20 mg elemental iron and 100 mcg Folic Acid - should be given for 100 days minimum every year till 5 years of age.

Iodine and Fluoride

- Recommended fluoride level in drinking water in India: 0.5-0.8 mg/lt.
- Fluorine is a double edged sword:
  - Inadequate intake → dental caries
  - Excessive intake → dental and skeletal fluorosis
- House hold level de-fluoridation can be done by Nalgonda technique which involves the addition of lime, alum, bleeching powder.
- Iodine requirement: 150 mcg per day
  - Level of iodisation in salt (PFA Act 1954):
    - 30 ppm at production level
    - 15 ppm at consumer level

Other Nutrients

- Dietary fibre forms bulk of stool and reduces the tendency of constipation.
- A daily intake of about 40 grams of fibre is desirable
- Egg protein is the best protein (NPU = 96) and is poor source of Vitamin C and carbohydrates.
- Fat content of milk: Buffalo > Goat > Cow > Human
- Protein content of milk: Buffalo > Goat > Cow > Human

- Methods of Pasteurization:

Methods	Temperature applied	Duration
Holder/Vat Method	63-66°C	> 30 mins
HTST Method	72°C	> 15 sec
HHST Method	68°C	30 min
UHT Method	125°C	Few sec

Widely used test for adequacy/sufficiency of pasteurization is Phosphatase Test
In Coliform Count Test, coliforms should be absent in 1 ml of milk.

- Food Adulteration:

Disease	Toxin	Adulterant
Lathyrism	BOAA	Khesari Dal
Epidemic Dropsy	Sanguinarine	Argemone mexicana
Endemic ascites	Pyrrolizidine alkaloids	Crotolaria seeds
Aflatoxicosis	Aflatoxin	Aspergillus flavus
Ergotism	Clavine alkaloids	Claviceps fusiformis

Other Food items:

- Milk is poor source of Vitamin C and Iron.
- Egg is poor source of Vitamin C and carbohydrates.
- Meat is a poor source of calcium.
- Fish is a poor source of carbohydrate.
- Halibut liver oil is richest source of vitamin A and D.
- Indian gooseberry is the richest source of Vitamin C.
- Sheep liver is the richest source of Vitamin B2 (Riboflavin).
- Pistachio is the richest source of iron.
- Limiting amino acid in soyabean is Methionine.
- Richest source of vitamin A and D is fish liver oils.

Mid-day Meal Programme

- Operated since 1961.
- Major objective is to attract more children for admission to schools and retain them so that literacy improvement of children could be brought about.
- The meal should supply 1/3 of the total energy requirement and 1/2 of the total protein requirement.

Mid-day meal scheme

- Launched in 1995

- Objective: universalisation of primary education by increasing enrollment, retention and attendance, impacting on the nutrition of students in primary classes.
- Should supply 1/3 of the total energy requirement amd 1/2 of the total protein requirement.
- Principles of the programme:
  - Meal is a supplement and not a substitute for home diet.
  - Meal should provide 1/3 calories and 1/2 proteins.
  - Meal should be of low cost and should be simple
  - Menu should change frequently and locally available foods must be used.

Mid arm circumference (MAC)

- Measured for age group 1-5 years
- Shakir's tape is used for measurement of nourishment status of a child, through measurement of MAC.

- Interpretation

MAC	Color Zone	Interpretation	Management
> 13.5	Green	Satisfactory nutritional status	
12.5-13.5	Yellow	Mild-moderate malnutrition	At home, through diet
< 12.5	Red	Severe malnutrition	Refer; institutional

Demography

Demography is the scientific study of human population. It consists of:

- Changes in population size
- Composition of population
- Distribution of population in space

There are 5 processes that runs in a population:

- Fertility
- Marriage
- Mortality
- Migration
- Social mobility

Important definitions in Demography

- Crude Birth Rate (CBR): annual number of live births per 1000 mid year population

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

---

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

- General Fertility Rate (GFR): annual of live births per 1000 women of childbearing age (15-49 years) mid-year population
- Age Specific Fertility Rate (ASFR): annual number of live births per 1000 women in particular age group (usually aged 15-19 years, 20-24 years)
- Crude Death Rate (CDR): annual number of deaths of children less than 1 year old per 1000 live births
- Life Expectancy: The number of years which a person at a given age could expect to live at present mortality levels.
- Total Fertility Rate (TFR): number of live births per woman completing her reproductive life, if her childbearing at each age reflected current ASFRs.
- Gross Reproduction Rate (GRR): Number of daughters who would be born to a woman completing her reproductive life at current ASFRs.
- Net Reproduction Rate (NRR): Expected number of daughters per newborn prospective mother who may or may not survive to and through the ages of childbearing.

Demographic cycles

	Phase I	**Phase II**	**Phase III**	**Phase IV**	**Phase V**
Birth rate	High	High	Declining	Low	Low
Death rate	High	Declining	Declining	Low	Declining
Demographic Gap	Narrow	Increasing	Decreasing	Narrow	Reversal
Population	Stationary	Growing	Growing	Staionary	Decreasing
Composition	Young	Young	Young	Mixed	Ageing
Age Pyramid	Pyramidal	Losing pyramidal shape	Globular	Cylindrical	Losing cylindrical shape

For India:
- Crude Birth Rate: 20.4 per 1000 population
- Crude Death Rate: 6.4 per 1000 population
- Annual Growth Rate: 1.64%

Literacy, Life expectancy, Fertility

- Literacy in India means any person who can read and write, with understanding, in any one language of India and who is more than 7 years of age.
    - Denominator is Population > 7 years of age.
- Kerala has maximum literacy rate with 94% and least in Bihar (64%)
- Total Fertility Rate is standardized Index for fertility level.
- Gross Fertility Rate (GFR) is a better measure of Fertility than Crude Birth Rate (CBR).

Sample Registration System

- This provide national as well as state level reliable estimates of fertility and mortality including Birth Rate, Death Rate, Infant Mortality Rate.
- SRS is a dual record system.
- Advantages of SRS:
  - Eliminate the errors of duplication
  - Leads to quantitative assessment of the sources of distortion in the two sets of records making it a self evaluation technique.
- SRS covers the whole country
- Main components are:
  - Base line survey of the sample units to obtain usual resident population of the sample areas.
  - Continuous enumeration of vital events pertaining to usual resident population by the enumerator.
  - Independent retrospective half-yearly surveys for recording births and deaths which occurred during the half-year under reference and updating the houselist, household schedule and the list of women in the reproductive age group along with their pregnancy status.
  - Field verification of unmatched and partially matched events.
  - Filling of verbal autopsy forms for finalized deaths.

Civil Registration System

- Birth and Death registration system is technically known as CRS.
- Registration of birth and deaths and marriages are compulsory at their place of occurrence with local registrar in India.
- Birth and Death Registration Act, 1969
- Births must be registered within 21 days.
- Deaths must be registered within 21 days.
- Marriages must be registered with variable limits within India.
- Delayed registration of birth/death:
  - After 21 days till 30 days: late fee
  - After 30 days till 1 year: Late fee + written permission from district registrar
  - After 1 year: late fee + order of executive magistrate

Natural Family Planning Methods

- Rhythm/Calendar Method: Fertile period is shortest cycle minus 18 days. Failure Rate:9 per HWY (hundred woman years)
- Basal Body Temperature
- Cervical Mucus Method
- Symptothermic Method
- Sexual abstinence

- Withdrawal method
- Coitus interruptus
- Lactation Amenorrhea Method

Shelf Life of IUDs

IUD	Approved years of use
Copper IUD	3-5
Progestasert	1
CuT 200	4
NOVA T	5
LNG IUD	7-10
CuT 380 A	10

IUDs associated with side effects

Side effects/complications	IUD most commonly associated
Highest pregnancy rate	Lippes loop
Lowest pregnancy rate	LNG - IUD
Highest expulsion rate	Lippes loop
Lowest expulsion rate	Progestasert
Highest removal rate	LNG - IUD
Lowest removal rate	Progestasert

Under RCH programme, combined OCPs are

	MALA - N	MALA - D
Type of contraceptive	Combined	Combined
Estrogen	Ethinyl estradiol (0.03 mg)	Ethinyl estradiol (0.03 mg)
Progesterone	Norgestrel (0.15 mg)	Desogestrel (0.15 mg)
Position in RCH	Provided free of cost	Provided at subsidized cost

Some important points about Family Planning

- Centchroman (Saheli) is synthetic non-steroidal oral contraceptive
  - Chemical present is Ormeloxifene
  - It is Selective Estrogen Receptor Modulators (SERM)
  - Failure Rate: 1.83-2.84 per HWY
  - Used as contraceptives and DUB

- MTP (Medical Termination of Pregnancy) Act (1971) was passed in 1972

- Legal indications for MTP can be
  - Humanitarian - rape/sexual assault
  - Eugenic - genetic/chromosomal anomaly detected in fetus
  - Therapeutic - when full term pregnancy is risky to mother or fetus
  - Social - when pregnancy is a result of contraceptive failure.

- Eligibility to perform MTP:
  - Qualifications: MD (Gynaecology/Obstetrics) or DGO or 6 months Housemanship in Gynaecology and Obstetrics.
  - Experience: Atleast carried out 20-25 supervised MTPs.

COMMUNICABLE & NON-COMMUNICABLE DISEASES

DENGUE

- Viral Disease; Caused by Arboviruses (Flaviviruses)
- 4 Serotypes,ie **Den 1, 2, 3, 4**
- Vector = Aedes aegypti
- Reservoir = Man, Mosquito
- Incubation Period = 5 - 6 Days
- Classical Dengue Fever (CDF/ DF): aka Breakbone Fever; Clinical Features: High grade Fever with Biphasic Curve, Chills, Muscle & Joint Pain(Myalgia & Arthralgia respectively), Skin Rash, Retro-orbital Pain, Photophobia, Abdominal Pain, Strong Headache.
- Dengue Hemorrhagic Fever (DHF): Severe, Infection by >1 Serotypes of Dengue Virus, IP = 4 - 6 Days; Clinical Features: Features of DF + [Increased Hematocrit Value(> 20 % of the Baseline), Thrombocytopenia (< 1 Lac / mm^3), Hepatomegaly, Positive Tourniquet Test (> 20 Petechiae / Sq. Inch); Diagnostic Criteria for DHF: Fever + Hemorrhagic Symptoms + Thrombocytopenia + Hemoconcentration/ Increased Hematocrit
- Dengue Shock Syndrome (DSS): DHF + Shock (Narrow Pulse Pressure/ Hypotension, Weak & Rapid Pulse, Restlessness, Cold & Clammy Skin etc.)
- Vaccine: DENGVAXIA (Strain : CYD- TDV); Type- Live, Recombinant, Tetravalent Vaccine); Age Group- 9years to 45 Years old people in Endemic Area; Schedule- 3 Injections (0; 6 Months; 12 Months)

YELLOW FEVER

- Other Names: American Plague, Black Vomit, Yellow jack

- Viral Disease; Flavivirus (Toga Virus Family, Gp B Arbovirus)
- Incubation Period = 3 - 6 Days (6 Days according to International Health Regulations)
- Reservoir of Infection:
  - Forest Cycle (Sylvian Cycle): Monkey & Forest Mosquito
  - Urban Cycle: Aedes aegypti, Man (during Clinical & Subclinical Phases)
- Period of Communicability:
  - Man: Initial 3 - 4 Days of the Disease
  - Mosquito: Lifelong (After Extrinsic IP of 8 - 12 Days)
- CFR = 80 %
- A single Attack of Yellow Fever provides **Lifelong Immunity.**

- Vaccine: Type- Live Attenuated Lyophilized / Freeze dried Vaccine; Strain - 17 D; Grown on Chick Embryo; Cold Chain Temperature Range: (-30° C to 5° C); Immunity, after Vaccination, lasts from 7 Days to 35 Years; Validity of Vaccination - Certificate (According to WHO): 10 days to Lifelong; Only Live - Vaccine which can be given to a Pregnant Lady in case of Risk of Exposure;
  A gap of ≥ 3 Weeks has to be maintained between Yellow Fever Vaccine & Cholera Vaccine (These 2 Vaccines can Not be given together)

- Indices Associated with Aedes Mosquito - Surveillance: **Container Index; House Index; Breteau Index**
- Control Measure: A distance of 400 m around the Airport should be kept free of breeding of mosquito; Aedes aegypti Index / Breteau Index , in Towns & Seaports should be < 1 %

PLAGUE

- Alternative Names: Mahamari, The Great Death, Black Death
- Bacterial Disease; Yersinia pestis (Non- motile; Gram Negative, Cocco- bacillus)
- Vector: Rat flea (Xenopsylla cheopsis)
- Reservoir: Wild Rodents; **Tatera indica in India**
- Sources of Infection: Cases of Pneumonic Plague, Infected Rodents & Fleas
- Mode of Transmission: Direct Contact with Tissues of Infected Animal, Droplet Infection (Pneumonic Plague), Bite of an Infected Flea
- Flea- Indices: Total Flea Index, **Cheopsis Index (Indicator of Potential Explosiveness in case of Outbreak)**, Specific Percentage of Fleas, Burrow Index
- Types of Plague:
  - Pneumonic Plague: Complication of Bubonic, Septicemic Plague; IP = 1 - 3 Days
  - **Bubonic Plague: MC Type among all types of Plague, IP = 2 - 7 Days**
  - Septicemic Plague: Accidental occurence , Lab- Infections, IP = 2 - 7 Days

- **DOC: Streptomycin**
- Chemoprophylaxis: Tetracycline

RICKETTSIAL DISEASES

Name of the Rickettsial Organism:	Disease Caused:	Vector:	Reservoir:	Mode of Transmission:	Incubation Period:
R. prowazekii	Epidemic Typhus	Louse	Human	Scratching & Inoculation with Infected Louse feces; Inhalation of Infected Louse feces/ dust; Crushing Infected Louse on body	
R.typhi (R.mooseri)	Murine Typhus/ Endemic Typhus/ Flea borne Typhus	Flea	Rodents	Rat Flea(Feces Inoculation on Skin / Inhalation of dried Infective Feces	1 - 2 Weeks
R.tsutsugamushi	Scrub Typhus (Most Widespreads pread of All - Rickettsial Disseases)	Trombiculid Mite	Rodent		10 - 12 Days
R.conori	Indian Tick Typhus	Tick	Rodent, Dog		
R.rickettsii	RMSF	Tick	Rodent, Dog		
R.akari	Rickettsial Pox	Mite	Mice		

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

_____

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

- DOC of Epidemic Typhus, Endemic Typhus = Tetracycline

- **Q FEVER:**
  - Caused by Coxiella buurnetii
  - No Vector
  - Reservoir: Cattle, Goat, Sheep
  - No Skin Lesion
  - 'Pneumonia like Picture'
  - Mode of Transmission: Inhalation of Infected Dust
  - IP = 2 - 3 Weeks
  - Treatment: Tetracycline

- **TRENCH FEVER:**
  - Caused by Bartonella quintana
  - Vector: Louse
  - Reservoir: Human

LEISHMANIASIS

- Bacterial Disease
- Different Types of Leishmaniasis are caused by Different Bacteria.

1. Leishmania donovani - Visceral Leishmaniasis/ Kala Azar
2. L. tropica - Cutaneous Leishmaniasis/ Oriental Sore
3. L. braziliensis - Muco- cutaneous Leishmaniasis

- Vectors: Female Phlabotamine Sandflies. Following are the Specification

Visceral Leishmaniasis/ Kala Azar - Phlabotamus argentipes
Cutaneous Leishmaniasis/ Oriental Sore - P. papatasi & P. sergenti

- Reservoirs of Infection: Rodents, Dogs, Fox, Jackal, other Mammals
  [Indian Kala- Azar- Non- zoonotic Infection, ie, Reservoir = Man]
- Mode of Transmission: Blood Transfusion, Crushing of insects while feeding/ Contact, Contamination of the Bite- wound, Bite of Female Phlabotamine Sandfly

- Incubation Period: 1 - 4 Months (Can also be between 10 days - 2 years)
- Treatment:

1. No Prophylaxis Available
2. Sodium stibogluconate
3. LAMB = Liposomal Amphotericin B

KFD

- Known as Kyasanur Forest Disease/ KFD, Monkey Disease
- Viral Disease; Group B Toga Virus (Flavivirus)
- Vector : **H**aemophysalis spinigera/ **H**ard Tick (India), Soft Tick (Outside India)
- Pig = Amplifier Host; Man = Incidental Dead End Host
- IP = 3 - 8 Days
- Vaccination: Killed KFD- Vaccine
- Management: Repellants,Cattle- Movement Restriction etc

JAPANESE ENCEPHALITIS/ JE

- Viral Disease; Group B Arbovirus (Flavivirus)
- Vector: Culex Mosquito/ Culicine Mmosquito
  - Culex tritaeniorhynchus (Most Important Role)
  - C. vishnuii
  - C. gelidus
- IP: 5 - 15 Days (Man), 9 - 12 Days (Mosquito)
- Maximum Case of JE in India: Gorakhpur, UP
- Ratio of JE Overt Disease & Inapparent Infection can vary from 1 : 300 to 1 : 1000
- In India, there is/ are 1 - 2 case/s per Village
- JE is Not Rampant among Infants but 85 % Cases have been found among the Age below 15 years
- Pig = Amplifier Host; Man = Incidental Dead End Host
- Cattles (Mosquito Attachers), Birds, Horses are involved in JE- Natural History

MEASLES

- Viral Disease; RNA- Paramyxovirus
- Source: Cases
- No Carrier
- Transmission: Droplet
- IP: 10 - 14 days
- SAR : 80 %
- Lifelong Immunity
- Period of Communicability: 4 Days before the Rash Appears & 5 Days After the Rash Appears
- Retro- auricular Rash
- Koplik Spot = Pathognomonic Sign; Opposite Lower 2nd Molar Tooth
- Complication: SSPE; Otitis media (MC Complication of Measles among Children)
- Active & Passive Immunization
- **Catch up, Keep up, Follow up** - WHO Measles Elimination Strategy

MUMPS

- Viral Disease; Myxovirus parotiditis (RNA Paramyxovirus)
- Source: Clinical & Subclinical Cases
- IP: 14 - 21 Days
- Period of Communicability: 4 - 6 Days before the Onset of Symptoms & 7 Days After the Onset of Symptoms
- Lifelong Immunity
- SAR = 86 %
- Active Immunization
- Salivary Glands Involved (esp. Parotid Gland = PArotiditis)
- Complication: Orchitis / Oopheritis (MC Complication among Adolescents); Aseptic Meningitis (MC Complication)

RABIES

- Alternative Name = Hydrophobia
- Viral Disease; Rhabdovirus; Lyssavirus Type 1; Bullet Shaped; Neurotropic RNA Virus
- 100 % Fatal (if Untreated)
- Variable Incubation Period; 14 Days - Many Years; According to some Scientists, its around 3 - 8 Weeks
- Pathognomonic of Rabies : Hydrophobia; Aerophobia; Negri bodies
- Negri bodies = Intracytoplasmic Eosinophilic Inclusion bodies with Basophilic Granules in Neurons

- Mode of Transmission: Bites of Animal(Mammals) like Dogs, Cats, Buffalo, Goat, Sheep, Horse, Monkey [Exception: Rodents, Human, ie, does Not Spread through these modes]; Aerosols (eg, Infected Bats); Lick, Corneal Transplant & Other Organ Transplants, Person to Person (Very Rare)
- Vaccines & Post Exposure Prophylaxis (PEP):

RABIES VACCINE(POST EXPOSURE PROPHYLAXIS):

Cell-cultured Vaccine Schedule: Day 0; Day 3; Day 7; Day 14, Day 28 (6 Doses)
Booster Dose on Day 90

Dose: 20 IU/ kg (Human Ig) & 40 IU/ kg (Equine Ig)

RABIES VACCINE(PRE EXPOSURE PROPHYLAXIS):

Schedule: Day 0; Day 7; Day 21/ Day 28

- Treatment of Local Wound/ Steps needed to be taken after a Suspected Exposure:
  - Cleansing: Flushing & Washing with Soap & Running Water for ≥ 5- 10 minutes
  - Suturing should be done after 24 - 48 Hours, if needed
  - Local Application with Anti- rabies Serum (Prior Sensitivity Testing)
  - Observation of the Suspected Animals
  - PEP

- PEP Recommended for different Types of Exposures:

Category / Type of Exposure:	Description:	Recommended PEP/ Guideline for PEP:
I	Lick on Intact Skin; Contact, with Secretion/ Excretion, on Intact Skin; Touching/ Feeding the Suspected Animals;	No need of PEP if Reliable History is available
II	Minor Scratch / Abrasion without Bleeding; Direct Nibbling on Skin	PEP / Anti- Rabies Vaccine has to be taken;
III	Transdermal Bites, Scratches/ Licks on Broken Skin, Contamination with Mucous Membrane with Saliva	PEP / Anti- Rabies Vaccine has to be taken; Rabies Immunoglobin; wound Management

- Rabies- free Area = No Case among Humans / Animals in the past 2 years,

EXAMPLES OF RABIES- FREE AREA/ REGIONS:

1. Andaman & Nicobar Islands
2. Australia
3. Britain
4. China (Taiwan)
5. Cyprus
6. Iceland
7. Ireland
8. Japan
9. Lakshadweep
10. Malta
11. Newzealandss

5 CLASSICAL STD/STI & THEIR CAUSATIVE ORGANISMS:

1. Syphilis : Treponema pallidum (IP = 9 - 90 Days)
2. Gonorrhoea : Neisseria gonorrhoeae (IP = 1 - 5 Days)
3. Chancroid : Hemophilus ducreyi (IP = 3 - 5 Days)
4. LGV : Chlamydia trachomatis (IP = 3 - 12 Days)
5. Donovanosis : Calymmatobacterium granulomatis (IP = 3 - 21 Days)

VERY COMMON STI/ STDs:

1. HIV- Infection
2. AIDS : HIV (IP = Few Months to 10 years)
3. Hepatitis A : Hep A Virus
4. Hepatitis B : Hep B Virus
5. Hepatitis C : Hep C Virus
6. Hepatitis D: Hep D Virus
7. Genital Warts : Human Papilloma Virus
8. Anal Warts : Human Papilloma Virus
9. Pubic Louse : Phthirus pubis
10. Scabies: Sarcoptes scabei
11. Trichomoniasis : Trichomonas vaginalis

SOME OTHER ORGANISMS CAUSING STI/ STDs:

1. Human Herpes Virus (HHV- α- 1,2; HHV- β- 5)
2. Giardia lambia
3. Mycoplasma hominis
4. Molluscum contagiosum
5. Candida albicans
6. Shigella
7. Entamoeba histolytica
8. Ureaplasma urealyticum
9. Campylobacter
10. Group B Streptococcus

FOOD POISONING:

Incubation Period is very Important in case of Suspected Food-Poisoning. It helps to detect the Causative Organism & Plan the Treatment accordingly.

Followings are the Incubation Periods of some Common Food- Poisonings:

1. Staphylococcal Food- Poisoning : 1 - 6 Hours
2. B. cereus - induced Food- Poisoning (Emetic Type) : 1- 6 Hours
3. B. cereus- induced Food- Poisoning (Diarrhoeal Type) : 12 - 24 Hours
4. Salmonella - induced Food- Poisoning : 12 - 24 Hours
5. Cl. perfringes - induced Food- Poisoning : 6 - 24 Hours
6. Botulism : 12 - 36 Hours

WHO - NOTIFIABLE DISEASES:

Cholera, Plague, Yellow Fever

DISEASES EXHIBITING ICE-BERG PHENOMENON/ Rule of Halves :

Hypertension, Diabetes, Malnutrition, Obesity, Arthritis, Cancer etc

Our E-Notes will include:

1. One liners of each subject: 90 to 100 highest yielding points of each subject.

2. Online Tests covering each material containing many questions from basic to clinical type and image based type.

3. Mock Tests - 300 questions

4. Comprehensive Notes of around 20-30 pages (or more) of each subject

5. Summary of Important Diseases - briefly explained many important diseases

6. IBQ (3 PARTS) - Notes

7. A Book of Important Tables and Figures

8. A Book of Cases for FMGE - containing many cases and its solution with sufficient explanation

9. Super Points (Part 1 and Part 2) each containing 250 points (so, total 500 points)covering all the subjects

10. Supplements: Time to time we will send supplements and updated notes.

EXTRAS:
- Individualized FMGE guidance
- On demand Study Plan for each student
- General tips about how to study
- Specific guidance to students' problem
- Doubts solving about any topic

---

* All the PDFs will be given at once, right after your payment verification

COST: 500 INR Only

To get all the materials listed here, kindly visit us and drop your whatsapp number or send us email

visit us at: medblog18.com/fmge

Or

Scan the below QR code

After our page opens, drop your whatsapp number
(the screenshot of our page is given below)

KEY RISK FACTORS OF NON-COMMUNICABLE DISEASES:

1. Smoking
2. Alcohol- abuse
3. Lack of Preventive measures / services
4. Lifestyle Changes (Negative Changes)
5. Stress - factors
6. Environmental Risk Factors

SOME DISEASES WHERE SMOKING ACTS AS A BENIFICIAL FACTOR:

- Ulcerative Colitis
- Alzheimer's Disease
- Parkinson's Disease
- Cervical Cancer

ENVIRONMENT AND HEALTH

CHLORINATION OF WATER

- Major Role : Hypochlorous acid (HOCL)
- Minor Role: Hypochlorite ions (OCL)
- Steps / Phases of Chlorination:
  - Phase I: Formation of Chloramines
  - Phase II: Destruction of Chloramines
  - Phase III: Appearance of Breakpoint
  - Phase IV: Accumulation of Free Residual Chlorine

- Recommended Contact Period of Water & Free Residual Chlorine = 1 Hour
- Horrock's Apparatus is associated with Chlorine Demand of Water

BACTERIOLOGICAL INDICATORS OF WATER

- Most Reliable & Primary Indicator of Water - quality : Coliform Organisms
- Most Important Coliform Indicator : E. coli
- Recent Contamination of Water can be detected with the presence of Fecal Streptococci

- Remote Contamination of Water can be detected woth the presence of Cl. perfringes

HARDNESS OF WATER

- Soap Destroying Power of Water
- Temporary (Carbonate) & Permanent (Non - carbonate) Hardness
- Expressed in terms of meq/ litre of Calcium carb onate
- Classification:
  - Soft Water : < 1 meq/ litre (< 50 mg / l)
  - Moderately Hard Water : 1 - 3 meq / litre (50 - 150 mg / l)
  - Hard Water : 3 - 6 meq / litre (150 - 300 mg / l)
  - Very Hard Water : > 6 meq / litre (> 300 mg / l)

- Temporary Hardness of Water can be removed by Boiling, Lime - addition, Sodium carbonate Addition, Permutit Process etc
- Permanent Hardness of Water can be removed by Sodium carbonate Addition, Base exchange Process etc

AIR

- Best Indicator of Air Pollution = Sulphur dioxide
- Lichens are the Best Biological Indicator of Air Pollution
- Kata Thermometer is associated with Cooling Power of Air
- Greenhouse Gases are Water- Vapour, Carbondioxide, Methane, Ozone
- Recommended Air Changes: 2 - 3 Changes per hour in Living Room and 4 - 6 Changes per hour in Work Room & Assemblies
- Recommended Floor - space per Person: 50 - 100 Sq.ft
- Air- Humidity can be Measured by Hygrometer

SOUND

- Audible Range of Frequency for Human: 20 - 20,000 Hz
- Maximum Tolerance level per day (without Ear - damage) : 85 - 90 dB
- Sound Limit beyond which the Tympanic membrane ruptures : 150 - 160 dB
- Acceptable Noise Level in Hospital : 20 - 35 dB
- Acceptable Noise Level in Residential Area 25 - 40 dB

HEALTHCARE SYSTEM AND HEALTH PROGRAMMES:

- ASHA:
  - Accredited Social Health Activist
  - Minimum Education : 8th / 10th Grade
  - 25 - 45 years of age
  - Selected by Village Panchayat / Gram Sabha
  - Training done by ANM for Minimum 23 days
  - Comes under NRHM
  - 2 ASHA per 1000 Population
  - Responsibilities of ASHA:
    - Health - awareness generation
    - Promotion of Good Health - practices & Providing Health Care Package
    - Providing Health related Informations
    - Counselling women on Reproductive & Child Health
    - Mobilising & facilitate people to access different Health Services
    - Depot Holder of Condoms, IFA Tablets, Chloroquine, DDK (Disposable Delivery Kit, OCP, ORS etc
    - Helping people to understand the Village Health Plan
    - Accompanying / helping the Pregnant Women / Mothers to get the required treatment / services in the nearest Health - centre
    - Reducing MMR by being a part of JSY

- DIFFERENT LAYERS OF INDIAN HEALTHCARE CENTERS AND THE POPULATION SIZE SEVED BY THEM:

  - CHC: 1,20,000 in Plain & 80,000 in Hilly/ Tribal/ Backward Area
  - PHC: 30,000 in Plain & 20,000 in Hilly/ Tribal/ Backward Area

- PHC contains 4 - 6 Beds, 15 Staffs, 1 MBBS MO
- CHC Contains 30 Beds, 30 Staffs, 7 Doctors of Postgraduate levels
- Subcenter Contains No Bed, 3 Staffs (1 Male & 1 Female MPW, ANM)

- MID-DAY MEAL:
  - Alternative Name : National Programme of Nutritional Support to Primary Education
  - Supplement and Not Substitute
  - 1/3 Calories, 1/2 Protein
  - Locally available Food
  - Variable Menu
  - No Complicated Cooking

- DIFFERENT HEALTH COMMITTEES AND THEIR CONTRIBUTIONS (Important Ones are given here):
  - Kartar Singh Committee: Multi purpose Health worker Scheme
  - Bhore Committee : Health Survey & Developement
  - Srivastava Committee: Group on Manpower & Medical Education; Para-professionals & Semi- professional Health-workers; ROME (Reorientation of Medical Education); Village Health Guide Scheme; 3 - tier Rural Health System
  - Jungalwalla Committee: NO Private Practice; Equal Payment for Equal Work

BIOSTATISTICS

- Mean is the Best Measure of Central Tendency
- Mode is the Best Measure of Central Tendency for Normal Data
- Median is the Best Measure of Central Tendency for Ordinal Data
- Mean is the Best Measure of Central Tendency for Metric / Quantitative Data
- The Most Frequently occuring / Repeated Value in a Distribution is known as Mode
- Deviation from the Mean Value = Standard Deviation
- Alternative Name for Standard Deviation is Root mean Square Deviation
- Significance of Association between 2 Qualitative Data is tested by Chi - square Test (in Non- Gaussian Distribution)
- Degree of Freedom is obtained by the Formula : (c - 1) (r - 1)

MISCELLANEOUS

Color Coding for Waste management:

Color	Waste	Treatment
Yellow	Human Anatomical waste, Soiled Waste, Animal waste, Microbiological Waste	Deep Burial / Incineration
Red	Soiled Waste, Solid Waste, Microbiological Waste	Microwave / Autoclave/ Chemical Treatment
Blue / White Translucent	Solid Waste, Sharp Waste	Microwave/ Autoclave/ Chemical Treatment & Destruction/ Shredding

Black	Chemical Wate (Solid), Incineration Ash, Discarded C ytotoxix Medicine	Secured Landfill

- Occupational Cancers:

1. Mesothelioma : c/b Asbestos
2. Skin, Lung, Liver Cancers : c/b Arsenic
3. Leukemia : c/b Benzene
4. Bladder Carcinoma : c/b Benzidine
5. Lung Cancer : c/b Silica
6. Cancer of Nasal Sinus : c/b Wood Dust

- Pneumoconiosis & Related Factors:

1. Silica- dust : Silicosis
2. Coal - dust : Anthracosis
3. Asbestos - dust : Asbestosis
4. Sugarcane- dust : Bagassosis
5. Cotton - fibre : Byssinossis
6. Iron - dust : Siderosis

- Triage:
  - Red : Highest Priority; Life-saving Surgery / resuscitation within 0 - 6 Hours
  - Yellow / Blue : High Priority; Life-saving Surgery / resuscitation within 6 - 24 Hours
  - Green : Ambulatory; Non - life- threatening ; Minor Injuries
  - Black: Least Priority: Dead / Moribund People
- Reverse Triage is applied in War

- Chandler's Index = Endemic Index = Avg. Numbe3r of Hook-warm Eggs per gm of Stool

- IQ:
  - Normal IQ : 70 and Above
  - Mild MR : 50 - 69
  - Moderate MR : 35 - 49
  - Severe MR : 21 - 34
  - Profound MR : 20 or below

- ESI - Act:
  - The Employees State Insurance Act , 1948
  - Social Security & Health Insurance
  - Employer Contributes 4. 75 % & Employee Contributes 1.75 % of Total Wage Bill
  - Maternity Benifit : 3 Months
  - Sickness Benifit : Upto 91 Days
  - Extended Sickness Benifit Payable for upto 2 years
  - Not Applicable for : Defence, Railways, Education, Mines (DREaM)

- Communication:
  - 2Ttypes - One Way / Didactic & Two Way (Socratic)
  - Example of One way Communication: Lecture / Chalk and Talk; Television; Newsprint; Radio
  - Example of Two Way Communication: Panel Discussion, Symposium, Focus Group Discussion

- Elements of Counselling:
  - Greet
  - Ask
  - Tell
  - Help
  - Explain
  - Return Visit

- Principles of Health Education:
  - Credibility
  - Interest
  - Participation
  - Motivation
  - Comprehension
  - Reinforcement
  - Learning by Doing
  - Known to Unknown
  - Setting an Example
  - Good Human Relations
  - Feedback
  - Leaders

- Examples of Mass- media : TV, Radio, Internet, News Paper, Printed Material, Direct Mailing, Poster, Billboards, Signs, Health Museums & Exhibition, Folk Media

- ANTI - TUBERCULAR DRUGS

Treatment category	Type of patients	TB treatment regimens	
		Intensive phase	*Continuation phase*
Category I	• New sputum smear-positive PTB • Seriously ill sputum smear-negative PTB • Seriously ill extrapulmonary tuberculosis (EPTB)	$2H_3R_3Z_3E_3$	$4H_3R_3$
Category II	• Sputum smear-positive relapse, • Sputum smear-positive treatment failure, • Sputum smear-positive treatment after default	$2S_3H_3R_3Z_3E_3$/ $1H_3R_3Z_3E_3$	$5H_3R_3E_3$
Category III	• Sputum smear-negative and EPTB not serious ill	$2H_3R_3Z_3$	$4H_3R_3$

---------- THE END ----------