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GRADUATES**

1. Hospital-associated infections: Prevention and Control
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# HOSPITAL ASSOCIATED INFECTIONS: PREVENTION AND CONTROL

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## HOSPITAL ASSOCIATED INFECTIONS: PREVENTION AND CONTROL

### **Introduction**

Microbes particularly bacteria and viruses have played havoc with human life since time immemorial. The discovery of antimicrobials had a significant impact on the control of bacterial infections along with prevention of a few dreaded bacterial and viral infections with the introduction of vaccines. However, the irrational use of antimicrobials and the lack of newer effective drugs have led to the development of multidrug resistant bacteria leaving fewer therapeutic options for those patients infected with multidrug resistant strains particularly in health care settings which is an ideal niche for breeding of these bugs. It is therefore essential to adopt stringent infection control measures in the health care establishments to prevent the spread of the drug-resistant strains and thereby reduce the morbidity and mortality associated with these infections.

Hospital acquired infection (HAI) also called health care associated infection (HCAI) or nosocomial infection is an infection acquired by a person in a hospital and was not present or incubating at the time of admission to the hospital. The disease may be due to the infectious agent or its toxins and usually manifest after 48 hours following admission or after discharge from the hospital.

### **Risk factors for acquisition of HAI:**

1. Prolonged stay in intensive care units (ICUs), burns or trauma care units, etc.
2. Invasive procedures for diagnostic or therapeutic purpose
3. Indwelling devices eg. I.V catheter, urinary catheter, endotracheal tube, etc.

4. Prolonged use of broad spectrum antibiotics, steroids or immunosuppressive agents.

**Source of Infection:**

1. Contaminated hands of health care workers (HCWs)
2. Inanimate objects in the vicinity
3. Contaminated medications eg. Eye drops, I.V fluids, etc.
4. Contaminated instruments and antiseptic lotions, etc.

**Routes of infection:**

1. Contact with skin (Percutaneous) or Mucous membrane
2. Inhalation of airborne droplet nuclei.

**Common types of HAI:**

1. Catheter-associated urinary tract infections (CA-UTIs)
2. Catheter-associated blood stream infections (CA-BSIs)
3. Surgical site infections (SSIs)
4. Ventilator Associated Pneumonia (VAP)

**Most common pathogens associated with HAI:**

1. Methicillin-resistant Staphylococcus aureus (MRSA)
2. Methicillin-resistant Staphylococcus epidermidis (MRSE)
3. Vancomycin Resistant Enterococci
4. ESBL Producing Gram-negative bacilli
5. Mycobacterium.tuberculosis
6. Candida species
7. Aspergillus species
8. Human immunodeficiency virus (HIV), Hepatitis B virus (HBV), Hepatitis C virus (HCV)
9. Herpes viruses: H.simplex, Varicella zoster

**Standard Precautions**

' Standard Precautions ' are safety practices to be followed in all health care settings and is based on the assumption that every patient is potentially infectious that include blood, body fluids, secretions and excretions except sweat. Non-intact skin and mucous membranes may

contain transmissible infectious agents. The practice of standard precautions contributes to significant decrease in HCAI. The major components of standard precautions are as follows.

**1. Hand Hygiene:**

The hands of the health care workers are important vehicles for transmission of infectious agents and therefore hand hygiene is of utmost importance in the control of HAI. Different types of hand hygiene are practiced as per the situation. These practices remove or reduce the transient and/ or resident bacterial flora of the hands thus reducing the transmission of the potentially infectious agents. A simple 'hand wash' with plain soap and water helps to remove the dirt and organic matter from the hands and is sufficient for routine noninvasive contacts with the otherwise healthy patients before and after contact. 'Surgical hand wash' requires the use of a medicated soap and water for preoperative preparation of the surgeon's hand.

**2. Hand rub:**

Hand rub is the process of disinfection of hands by application of alcohol based compounds for quick and in between two patient contacts as in ICU as a practically convenient method.

**3. Personal Protective Equipment (PPE):**

The use of PPE protects the HCW and the patient from cross infection. The type of PPE used varies with the situation.

- a) **Gloves:** Clean gloves act as an important mechanical barrier and protect the HCWs hand from being contaminated with potential infectious material. Some of the applications include, use by Phlebotomists, Dental surgeons for performing an oral cavity examination, Surgeons performing per rectal and Gynecologists per vaginal examination.
- b) **Sterile gloves:** These are used for all invasive procedures which come in direct contact with potentially infectious substances such as blood, body fluids, tissues, etc. of the patient, e.g. invasive procedures like urinary catheterization, surgical procedures, etc.

- c) **Gowns / Aprons:** These are used whenever contact with blood or body fluid is a possibility as in the operation theatres or other invasive procedures. A non-permeable plastic gown may be necessary in addition to the absorbent gown where huge blood spills are anticipated. Gowns / Aprons should be changed in between two patients or when visibly soaked with blood or body fluids. Donning of surgical gowns for the entry into ICU as a routine is not required.
- d) **Masks:** Face masks are to be worn in operation theatre and in wards / rooms with patients suffering from respiratory tract infections, as in the case of patients with pulmonary tuberculosis or whose respiratory or oropharyngeal secretions are infective.
- e) **Cap:** Caps are mostly used in operation theatres by HCW to protect the patient from being infected.
- f) **Eye shield:** Eye Shields to be worn by the HCW when anticipating a blood or body fluid spill. eg. Dental surgeons during manipulations in the oral cavity.

### Transmission based precautions

These are indicated when standard precautions alone would not suffice for control of the spread of infectious agents.

### Airborne precautions

#### Airborne infection isolation rooms (AIIRs)

Use of special air handling and ventilation systems is required to contain the spread of airborne infectious agents such as M. tuberculosis, spores of certain fungi, varicella virus etc. from patients that can remain viable over a period of time and distance in the air. Patients should preferably be kept in single isolation rooms under negative pressure and instructed to use disposable face masks while coughing or sneezing. HCWs should use higher level respirator masks while entering rooms of patients with highly infectious and virulent pathogens like severe acute respiratory syndrome (SARS), corona virus, H1N1 influenza virus, viral agents of hemorrhagic fevers like Ebola virus. Positive pressure ventilation,

directed room airflow, High-efficiency particulate air (HEPA) filtration of incoming air are some of the measures advocated for patients who have undergone hematopoietic stem cell transplant.

**Contact precautions:** Indicated for prevention of transmission of infectious agents spread by direct or indirect contact.

### Methods

1. Cohorting of patients
2. Maintaining the minimum distance of 3 feet between adjacent patients.
3. Appropriate stringent disinfection of floor and material including the frequent contact points like bed railings, table, toilet, etc

### Urinary Tract Infections (UTIs)

Catheter associated UTI (CA-UTI) are the most common type of HAI, UTI are considered as CA- UTI if the patient had an indwelling catheter at the time of or within 48 hours of onset of the event. Approximately 95% of U.T.I in hospitals is catheter-associated. The proximity of the urethral meatus to the anal sphincter in females, the passage of the catheter through a natural orifice and location in the bladder, deposition of Tamm-Horsfall proteins around the catheter facilitate the adherence of uro-pathogens and initiation of infection. Some of the important risk factors for CA- UTI are:

- Female patienta
- Prolonged catheterization
- Diabetes mellitus
- Severe underlying diseases
- Elderly patient
- Poor catheter care

### Prevention of CA-UTI

- Aseptic technique of catheterization
- Proper care of the catheter and collection bag
- Use of the narrowest size of catheter as possible
- Ensuring dependent drainage
- Minimizing the duration of catheterization

Use of closed drainage system  
Use of silver impregnated or antibiotic catheter as indicated by the duration and risk.

Use of condom catheters in male

Use of systemic antimicrobials

### **Blood Stream Infections (BSIs)**

Vascular catheterization has become an inevitable procedure as a part of patient care particularly in ICUs and is a known risk factor for catheter associated blood stream infections (CA-BSIs). CA-BSI is defined as bacteremia or fungaemia in a patient who has an intravascular device and a positive result of culture of blood samples obtained from peripheral vein with clinical features of infection and no apparent source of infection except the catheter.

#### **Risk factors for CA- BSI**

Severe underlying illness

Loss of skin integrity

Plastic catheters

Central catheters

Prolonged catheterization

Inadequate care of catheter site

#### **Common agents of (CA- BSI)**

Coagulase negative staphylococci

S.aureus

Candida sp.

Enterococcus sp.

Pseudomonas aeruginosa and

Serratia marcescens

#### **Prevention**

Hand hygiene plays an important role. Hand washing before and after insertion and subsequent contacts with the insertion site.

Use of 2% chlorhexidine as skin disinfectant

Strict aseptic practices

Avoiding unnecessary manipulations

Proper education and training of HCWs involved in the care of such points.

Use of subclavian site rather than jugular or femoral site in adults for non-tunneled central venous catheter placement.

Use of jugular or femoral veins for hemodialysis and pheresis.

Use of upper extremity instead of lower extremity for peripheral vein and midline catheter insertion.

Use of antimicrobial impregnated catheters viz. chlorhexidine silver sulphadiazine impregnated catheters and/or minocycline - rifampin impregnated catheters, reduces the risk of CA-BSI by nearly 40% Prophylactic use of anticoagulants reduces the occurrence of thrombosis at the site of catheter insertion which serve as a nidus for colonization with microbes.

'Bundle approach' includes the simultaneous application of selected interventions when applied together drastically reduces the CA-BSI. The essential components include:

1. Hand washing

2. Full barrier precautions

3. Preparation of the skin with antiseptic like chlorhexidine

4. Avoiding femoral site if possible.

5. Removal of catheter as early as possible.

### **Surgical Site Infections (SSIs)**

Surgical site infections constitute about 20% of HAI. SSI is defined as infection of the surgical site that occurs within 30 days of the surgical procedure or within one year of an implant or foreign body such as prosthetic heart valve or joint prosthesis. Most of the SSI results from contamination of the surgical wound with patient's own flora or that of the HCW. or the environment in the operating room. Infection may manifest during hospitalization or after discharge. The common clinical features of SSIs are localized pain, redness and discharge. Most common bacterial agents of SSI are S.aureus, Esch.coli, Klebsiella, Proteus sp. Pseudomonas sp. Drug resistant pathogens like MRSA and ESBL producing Gram negative bacilli have become more common. Outbreaks have occurred following use of contaminated adhesive dressings. Elastic bandages, contaminated antiseptic lotion SSI can be superficial, deep or organ or space involving any organ or space.

## **Risk factors**

- Very old or very young age
- Poor nutritional status
- Uncontrolled diabetes
- Smoking
- Use of steroids
- Obesity
- Co-existing morbidity
- Colonization of carrier
- Prolonged preoperative stay
- Preoperative shaving within 24 hours of surgery

## **Prevention**

- Strict hand hygiene measures and use of proper surgical attire.
- Use of appropriate antimicrobials depending on the site and type of surgery
- Cefazolin provides adequate coverage for most clean contaminated wounds
- Cefoxitin is preferred for surgery on distal intestinal tract
- Aztreonam is a suitable alternative for cephalosporin
- Metronidazole or clindamycin should also be added for coverage of anaerobes
- Maintenance of positive pressure in the operating rooms
- Use of HEPA filters
- Optimum room temperature of 20° to 22°C
- Unidirectional air flow
- Use of appropriate drains
- Debridement of devitalized tissues
- Effective haemostasis
- Adequate post-operative care
- Periodic surveillance of operation suites

## **Hospital acquired pneumonia (HAP)**

Pneumonia is the second most common HAI and it carries a high morbidity and mortality. Ventilator associated pneumonia (VAP) is the specific type of HAP that occurs 48 hrs after initiation of mechanical ventilation. The most important risk factor for HAP is prolonged

mechanical ventilation. Other risk factors include:

- Prolonged administration of broad spectrum antimicrobials
- Underlying chronic lung disease
- Insertion of nasogastric tube
- Surgical procedures involving head, neck and thorax
- Co-morbidities

The first step in the pathogenesis of HAP is colonization of oropharynx with resistant pathogens and subsequent translocation to the lower respiratory tract. Most of the HAPs are of bacterial origin. Early onset HAP is usually caused by antimicrobial sensitive pathogens while late onset HAP is usually caused by multidrug resistant pathogens such as *Pseudomonas* species, *Acinetobacter* species, and *Staphylococcus aureus*. About 40% are polymicrobial.

## **Prevention**

Selective decontamination of digestive tract (SDD) by local administration of antimicrobial agents as polymyxin / colistin, aminoglycosides, quinolones coupled with amphotericin B or nystatin prevents colonization of oropharynx with potential pathogens.

- Frequent mouth wash preferably with an antiseptic and brushing of teeth
- Semi recumbent position unless contraindicated
- Enteral feeding as soon as the patient's condition permits
- Appropriate care of devices used in mechanical ventilation
- Avoidance of invasive ventilation where feasible
- Use of silver coated endotracheal (ET) tubes
- Use of orotracheal or orogastric tubes in preference to nasogastric tube
- Avoidance of prolonged nasal intubation
- Avoidance of frequent re-intubation

## **Bundle approach to prevention of VAP**

Ventilator bundle is defined as a group of preventive interventions that when executed together result in a better outcome than when implemented individually. The four components of the bundle are

1. Elevation of the head end of the bed by 30 - 45 °.

2. Prophylaxis for deep venous thrombosis and peptic ulcer disease.
3. Daily interruption of sedation
4. Daily assessment of feasibility to extubate.

Prompt and appropriate use of antibiotics improves the outcome of VAP; Monotherapy may be used in patients with no risk factor for multi-drug resistant (MDR) pathogens, and infections caused by Gram positive bacteria. Combination therapy is to be preferred for Gram negative pathogens and in the presence of risks factors for MDR pathogens.

### **Prevention of Infection in immuno-compromised (IC) hosts & special situations**

#### ***Burns wound infections***

Isolation in single rooms with filtered air at positive pressure into rooms with exhaust to exterior.

- Stringent hand hygiene measures
- Donning of appropriate PPE
- Scrupulous environmental cleanliness
- Prohibiting HCW with skin or throat infections

#### **Dermatology wards**

- Isolation of patients with sepsis
- Isolation of patients with desquamating lesions
- Exhaust ventilation in dressing rooms

#### **Dialysis units**

Patients are at increased risk of infection from blood borne pathogens

- Dialysis fluid carries high risk of bacterial contamination
- All patients should be screened for HIV, HBV, and HCV
- Standard precautions to be followed during dialysis
- Subcutaneous arteriovenous (AV) fistulae to be preferred.
- Strict aseptic techniques and environmental disinfection.

#### **Transplant recipients**

- Screening of patients for various infections before and after transplantation
- Appropriate antimicrobial prophylaxis

- Standard precautions especially hand washing
- Use of well cooked food
- Avoiding formation of water aerosols

### **Immuno -compromised patients**

IC patients are at an increased risk of acquiring variety of infections due to impaired humoral and cellular immunity

- Prophylactic antimicrobials to be administered as indicated.
- Standard precautions to be practiced
- Maintaining environmental hygiene.

### **Laboratory acquired infections**

Laboratory personnel are at an increased risk for infections due to frequent handling of potentially infectious specimens both by direct contact, inhalation of aerosols or injuries with sharps and spills.

- Provide training and education about safety measures to be practiced by the laboratory staff
- Covering of open wounds with sterile dressing
- Use of PPE like gloves, mask as indicated
- Prophylactic vaccination for Hepatitis B
- Post exposure prophylaxis for HBV and HIV as indicated
- Hand hygiene
- Use of appropriate safety cabinets
- Proper exhaust ventilation

### **Biomedical Waste Management**

Hospital infection control is also dependent on proper segregation, disinfection and disposal of all biomedical waste generated in the health care setting. Inappropriate management of the hospital waste is a potential threat to the patients HCW, and the community at large. Every institution should formulate a policy for safe disposal of hospital waste. Colour coded bins for each category of waste is to be provided at all points of waste generation. All infectious sharps should be disinfected at the point of generation before discarding into the bins. Appropriate PPE like leather gloves (for handling sharps), masks, gowns. etc. should be worn by the HCWs Plastic and rubber material should not be incinerated. All categories

of waste should be disposed as per the standard protocols and guidelines issued by the health authorities. Disposable items should not be reused.

### **Purpose of surveillance of nosocomial infections**

"Good surveillance does not necessarily ensure the making of the right decisions, but it reduces the chances of wrong ones"

#### **Alexander. D. Langmuir**

The purpose of surveillance of nosocomial infections is to reduce the incidence of HAIs and thus to reduce the associated morbidity, mortality, and costs. Before beginning surveillance activities it is essential to develop a clear plan. It should address

- 1) What questions are being asked
- 2) How infections are to be defined
- 3) How the data are to be collected, stored, retrieved, summarized and interpreted
- 4) How to feed the results back to frontline practitioners
- 5) How to use the information to bring about change?

Prevention of nosocomial infections is the responsibility of all individuals and services providing health care. Everyone must work cooperatively to reduce the risk of infection for patients and staff.

A yearly work plan to assess and promote good health care, appropriate isolation, sterilization, and other practices, staff training, and epidemiological surveillance should be developed.

√An Infection Control Committee should include wide representation from relevant departments viz. management, physicians, other health care workers, clinical microbiology, pharmacy, central supply, maintenance, housekeeping and training services.

### **Minimal Requirements for Surveillance**

1. Monitor infection patterns (sites, pathogens, risk factors, location within the facility)
2. Detect changes in the patterns that may indicate an infection problem

3. Direct the rapid implementation of control measures
4. Monitor antibiotic use and resistance
5. Provide the staff with exactly the information they need in order to improve infection prevention practices

### **Operating theatres**

Modern operating rooms which meet current air standards are virtually free of particles larger than 0.5  $\mu\text{m}$  (including bacteria) when no people are in the room. Activity of operating room personnel is the main source of airborne bacteria, which originate primarily from the skin of individuals in the room. The number of airborne bacteria depends on eight factors.

1. Type of surgery
2. Quality of air provided
3. Rate of air exchange
4. Number of persons present in operating theatre
5. Movement of operating room personnel
6. Level of compliance with infection control practices
7. Quality of staff clothing
8. Quality of cleaning process

Conventional operating rooms are ventilated with 20 to 25 changes per hour of high-efficiency filtered air delivered in a vertical flow. High-efficiency particulate air (HEPA) systems remove bacteria larger than 0.5 to 5  $\mu\text{m}$  in diameter and are used to obtain downstream bacteria-free air. The operating room is usually under positive pressure relative to the surrounding corridors, to minimize inflow of air into the room.

For operating theatres, a unidirectional clean airflow system with a minimum size of 9 m<sup>2</sup> (3 m x 3 m) and with an air speed of at least 0.25 m/s protects the operating field and the instrument table. This ensures instrument sterility throughout the procedure. It is possible to reduce the costs of building and maintaining operating theatres by positioning such systems in an open space with several operating teams working together. This is particularly adapted to high-risk surgery such as orthopedics, vascular surgery, or neurosurgery.

## **Need for an infection control programme**

To develop and continually update guidelines for recommended health care surveillance, prevention, and practice

Develop a system to monitor selected infections and assess the effectiveness of interventions

Harmonize initial and continuing training programmes for health care professionals

Facilitate access to materials and products essential for hygiene and safety

Encourage health care establishments to monitor health-care associated (nosocomial) infections and to provide feedback to the professionals concerned

## **Infection control programme**

The important components of the infection control programme are:

Basic measures for infection control, i.e. standard and additional precautions

Education and training of health care workers

Protection of health care workers, e.g. immunization

Identification of hazards and minimizing risks

Routine practices essential to infection control such as aseptic techniques, use of single use devices, reprocessing of instruments and equipment, antibiotic usage, management of blood/body fluid exposure, handling and use of blood and blood products, sound management of medical waste; effective work practices and procedures, such as environmental management practices including management of hospital/clinical waste, support services (e.g., food, linen), use of:

## **Therapeutic devices**

Surveillance

Incident monitoring

Outbreak investigation

Infection control in specific situations

Research.

In addition to implementing basic measures for infection control,

health care facilities should prioritize their infection control needs and design their programmes accordingly.

## **Organization of an infection control programme**

As with all other functions of a health care facility, the ultimate responsibility for prevention and control of infection rests with the health administrator.

The hospital administrator/head of hospital should:

Establish an infection control committee which will in turn appoint an infection control team; and provide adequate resources for effective functioning of the infection control programme.

## **Infection control committee**

An infection control committee provides a forum for multidisciplinary input and cooperation, and information sharing.

The infection control committee is responsible for the development of policies for the prevention and control of infection and to oversee the implementation of the infection control programme. It should:

Comprises of representatives of various units within the hospital that have roles to play (medical, nursing, engineering, housekeeping, administrative, pharmacy, sterilizing services and microbiology department);

Elect one member of the committee as the chairperson (who should have direct access to the head of the hospital administration);

Appoint an infection control practitioner (health care worker trained in the principles and practices of infection control, e.g. a physician, microbiologist or registered nurse) as Secretary.

Meet regularly. (Ideally monthly, but not less than three times a year)

Develop its own infection control manual(s)

Monitor and evaluate the performance of the infection control programme

The committee must have a reporting relationship directly to either

administration or the medical staff to promote programme visibility and effectiveness

In an emergency (such as an outbreak), this committee must be able to meet promptly.

It has the following tasks:

To review and approve a yearly programme of activity for surveillance and prevention;

To review epidemiological surveillance data and identify areas for intervention;

To assess and promote improved practice at all levels of the health facility;

To ensure appropriate staff training in infection control and safety management, provision of safety materials such as personal protective equipment and products; and

Training of health workers.

### Infection control team

The infection control team is responsible for the day-to-day activities of the infection control programme. Health care establishments must have access to specialists in infection control, epidemiology, and infectious disease, including physicians and infection control practitioners; the infection control team has appropriate authority to manage an effective infection control programme. The infection control team is responsible for the day-to-day functions of infection control, as well as preparing the yearly work plan for review by the infection control committee and administration.

These teams have a scientific and technical support role, e.g. surveillance and research, developing and assessing policies and practical supervision, evaluation of material and products, the overseeing of sterilization and disinfection, ensuring sound management of medical waste and the implementation of training programmes.

The infection control team should:

Consist of at least an infection control practitioner who should be trained for the purpose;

Carry out the surveillance programme

Develop and disseminate infection control policies

Monitor and manage critical incidents

Coordinate and conduct training activities

### Recommended HIV Post-Exposure Prophylaxis for Percutaneous Injuries

Exposure Type	Infection Status of Source				
	HIV-Positive Class 1-	HIV-Positive Class 2'	Source of Unknown HIV Status"	Unknown Sources-	HIV Negative
Less severed	Recommend basic 2-drug PEP	Recommend expanded ~3-drug PEP	Generally, no PEP warranted; however, consider basic 2-d rug PEP" for source with HIV risk factors'	Generally, no PEP warranted; however, consider basic 2-drug PEP" in settings in which exposure to HIV-infected persons is likely	No PEP warranted
More severe	Recommend expanded 3-drug PEP	Recommend expanded ~3-drug PEP	Generally, no PEP warranted; however, consider basic 2-d rug PEP" for source with HIV risk factors'	Generally, no PEP warranted; however, consider basic 2-drug PEP" in settings in which exposure to HIV-infected	No PEP warranted

### Recommended HIV Post-Exposure Prophylaxis for Mucous Membrane Exposures and Non-Intact Skin Exposures

Exposure Type	Infection Status of Source				
	HIV-Positive Class 1-	HIV-Positive Class 2'	Source of Unknown HIV Status"	Unknown Sources-	HIV Negative
Small volume	Consider Basic 2-drug PEP	Recommend basic 2-drug PEP	Generally, no PEP warranted	Generally, no PEP warranted	No PEP warranted
Large volume	Recommend basic 2-drug PEP	Recommend expanded .<.:3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP' for source with HIV risk factors!	Generally, no PEP warranted;however, consider basic 2-drug PEP in settings in which exposure to HIV-infected persons is likely	No PEP warranted

### Recommended post - Exposure prophylaxis for exposure to Hepatitis B virus

Vaccination and Anti-body Response Status of Exposed Worker	Treatment		
	Source HBsAgb Positive	Source HBsAgb	Negative Source Unknown or not Available for Testing
Unvaccinated	HBIGx 1 and initiate HB vaccine series	Initiate HB vaccine series	Initiate HB vaccine series

### Previously vaccinated

Known responder	No treatment	No treatment	No treatment
Known non-responder	HBIG x 1 and initiate revaccination or HBIG x 2	No treatment	If known high-risk source, treat as if source were HBsAg positive
Antibody response unknown	Test exposed person for anti-Hbs If adequate: no treatment is necessary. If inadequate,' administer HBIG x 1 and vaccine booster	No treatment	Test exposed person for anti-Hbs. If adequate/ no treatment is necessary. If inadequate/ administer vaccine booster and recheck titre in 1-2 months

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# SAFEGUARDING AGAINST MEDICO-LEGAL ISSUES

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# PROFESSIONAL NEGLIGENCE (MALPRACTICE)

**Rajesh Sangram**

## Doctor and Society

The responsibility of medical professional has grown due to rising demand from patients for medical help. Patients are better informed about their health and expect their doctors to make decisions with them and not for them.

A doctor is required to make decisions based on an unambiguous estimate of the problem. Patients approach the physician with their ailments, for which he has to provide a diagnosis and undertake treatment. This works well in practice. Often, clinical picture is ambiguous, making it difficult for physician to reach a definitive conclusion. In such a situation, the possibility of a mistake is real and is a common professional hazard. Rather than accepting the ambiguity of certain clinical situations and explaining it to the patient, doctors are often pressurised to make a definitive decision in unclear circumstances, situations, which actually demands a probabilistic inference due to incomplete and fragmentary nature of information. They are often discussed in terms of clinical certainty, forcing errors.

No human being is infallible, and in the present state situations even the specialist may be at fault in detecting the true nature of the disease. A practitioner can only be held liable in this respect if diagnosis is so palpably wrong as to prove negligence, i.e., if his mistake is of such a nature as to imply an absence of reasonable skill and care on his part. Reasonable skill is equated with ordinary or average level of skill in the profession.

In medico-legal cases, however, part of the problem lies in the

legal connotation of the word "negligence". The failure of a doctor and hospital to discharge their obligation is in a civil wrong, called tort in law, a breach of which attracts judicial intervention by way of awarding damages.

## Protection to Doctors

In this era of commercialization of the profession, pontifications about "noble" profession and "sacred" doctor-patient relationship bring under the IPC to doctors for acts which may result in death or hurt for acts done in "good faith". However, "good faith" has been defined in section 52 with "due care and attention".

Medical malpractice is not merely the negligence on the part of the care giver; a conscious decision of the care giver; to offer and/ or force a product, procedure or investigation upon a patient for monetary gain either personally or for the institution comes under the definition under 'malpractice'.

There could always be deficiency of service inherent in every profession and the nature and extent of deficiency or efficiency is governed by the circumstances, qualifications and experience of the dispensing professional as well as the availability of gadgets and convenience at hand to the attending doctor.

The court has observed that the service which medical profession renders is probably the noblest of all and hence there is a need to protect doctors from unjust prosecution. Even a minor lapse on the part of doctor is blown out of proportion, canceling out the enormous amount of good work the doctor might have done silently. Looking at the component of negligence-of-duty and resulting damage, the court has repeatedly observed that it is not necessary for every professional to possess the highest level of expertise in that branch which he practices. In an acceptable standard of conduct; the competence is to be judged by the lowest standard that would be regarded as acceptable. The court has observed that the standard is that of the reasonable average and the law does not require of a professional man that he be a paragon combining the qualities of polymath and prophet.

## Bolam test

The classical statement of law in Bolam case (1957) has been widely accepted as decisive of the standard of care required both of professional men in general and medical practitioners in particular and holds good in its applicability in India.

A medical professional to be prosecuted for negligence under criminal law, there should be evidence that he did something or failed to do something, which a medical professional, "in his ordinary senses and prudence would have done or failed to do". The apex court has observed that "a simple lack of care, an error of judgment or an accident is no proof of negligence". A private complaint against a doctor will be entertained only if the complainant is able to furnish prima facie evidence before the court.

### Civil cases of negligence

Civil cases pertain to disputes between two or more persons regarding wrong or inadequate treatment, wrong diagnosis and failure to keep professional secrecy. When a patient sues a doctor in civil courts it is mainly for compensation.

- Due to the injury or death of the patient or as the case may be, caused because of the negligence of the doctor, or
- When a doctor files a civil suit for realization of his professional fees from the patient or his relatives who refuse the same on the grounds of malpractice.

Examples of civil negligence:

- Unnecessary treatment
- Wrong diagnosis
- Prolonged treatment
- Duty (to warn about possible side-effects) not discharged
- Treatment leading to further complications

A 'causation' means "to bring about". In order to obtain compensation in a case of medical negligence, it is not sufficient to prove that negligence has occurred, but also that the negligence was the cause of the damage. The more proximate the causation (proximate cause) to

the damage, the greater is the chance of succeeding in a claim for compensation. The more remote the causation (remote cause), the lesser is the chance of success in getting compensation.

In order to succeed in a medical negligence case, the claimant must prove, on a balance of probabilities, that the doctor's breach of duty to care, i.e., negligence, caused the damage, and he has to show that:

- The damage would not have occurred, but for the doctor's negligence or
- The doctor's negligence materially contributed to, or materially increased the risk of injury.
- Further, if the claim is that the doctor failed to disclose the risk involved in the treatment or surgery, and the risk actually occur, the claimant can raise a plea that had such risk been disclosed he would not have agreed to such a treatment or surgery.

The great problem of alleged medical negligence lies in the continuum of 'standard of care' between actions that are accepted medical practice and those that constitute a lack of care. At the junction of these two extremes is a grey area of debatable clinical judgment where some doctors would act in one way whereas others would act, quite legitimately, in a different way.

Claimants (patients) in clinical negligence actions have to demonstrate first that they owed a duty of care by their health care provider, second that there was a breach of the duty, and third, that they suffered harm as a result.

- Inadequate notes, lost records, failing or muddled memories may all lead to an inability to rebut the claimant's case.
- Keeping up-to-date is another important and related issue.
- Unless basic systems are in place to deal with patient referral, follow up, completion of clinical records, clinical correspondence, reviewing test results and acting appropriately on abnormalities, all sorts of things can and

do go wrong with potentially catastrophic effects for patients.

- Operation without consent
- Issuing wrong certificates or reports.

It is important to note that 'damage' in the sense of injury or harm, is quite different from 'damages', which is the financial compensation awarded to a successful litigant (here it is a patient's side).

There is also the problem in putting a proper definition for error, as an acceptable description is yet to be evolved.

### **What the court says:**

Supreme Court held that the Damocles' sword of criminal prosecution should not be hanging constantly over medical practitioner's head by making them liable for every instance of negligence.

- A simple lack of care, error of judgment or accident is not a negligence
- Error must be gross in nature
- Doctor can't be arrested in routine manner
- Complaint won't be entertained when there is credible opinion from another competent doctor, preferably from Government doctor in that branch of medicine.

A Doctor can be prosecuted for causing death due to 'rash and negligent act' (304A) if his patient dies, but the doctor cannot be prosecuted for 'culpable homicide not amounting to murder' (304) IPC, which entails a higher punishment. While punishment for rash and negligence act is two years, a life sentence can be imposed for an offence under culpable homicide not amounting to murder.

### **Criminal cases of negligence**

Criminal cases are related to violation of laws. In such cases, the guilty doctor is awarded with a punishment. It may be fine, imprisonment or even death sentence. In case of serious injury, the doctor may be

charged under various sections of IPC;

- Section 304A of IPC: causing death of any person by doing any rash or negligent act which does not amount to culpable homicide, which is punishable with imprisonment for a term which may extend to 2 years.
- Section 336 of IPC: rash or negligent act endangering human life.
- Section 337 of IPC: causing hurt to any person by doing any rash or negligent act as would endanger human life.
- Section 338 of IPC: causing grievous hurt to any person by doing any rash or negligent act so as to endanger human life.

Examples of criminal negligence

- Injecting anesthetic in a fatal dosage or into wrong tissues.
- Transfusing wrong blood.
- Performing a criminal abortion.
- Leaving instruments or sponges inside the part of the body operated upon.
- Operation on wrong patient or wrong part

There are many loopholes, variations and deficiencies in the knowledge and outcome of a treatment. It is unwise to expect that everything will go well in medicine according to the plan in every case. It is also true that the knowledge in medicine and its application is advancing so fast that every doctor cannot be an expert and be expected to offer the best expertise in every situation.

Medicine is a highly codified body of knowledge and procedures of treatment are meticulously standardized. With this level of procedural consistency, the profession cannot claim that the law does not have the expertise to evaluate its performance. The evaluation consists only in seeing whether the doctor in the dock has gone by the book. The law is as competent to rule on a medical case as in the case of financial irregularity. Most malpractice cases are self-evident anyway, and the principle of *res ipsa loquitur* (literally, the issue shall speak for itself) may safely be applied. It is usually a case of a surgical oversight- the

ubiquitous forceps problem- or the maladministration of anaesthesia. The law does not need technical skills to come to adequately comprehend such matters.

### **Elements of negligence**

The necessary elements of an action founded on negligence are held to be;

- A duty or obligation recognized by law requiring the person to conform to a certain standard of conduct for the profession of others against unreasonable acts.
- A failure on the part of the defendant (doctor) to conform to the standard required.
- A reasonable close causal connection between the conduct and the resulting injury.
- Actual loss or damage resulting to the plaintiff (patient).

### **Right to life**

The only way to resolve the problem of whether an act is truly negligent is by 'peer judgment' and this is the means by which most medical disputes are settled. The facts of the case are placed before experts in that particular specialty and their views sought. It is sufficient in this context to show only that a substantial number of doctors agree with the actions of the defendant (here it is a doctor's side); there is no need for unanimity of either condemnation or support.

## **MEDICO-LEGAL ASPECTS IN EMERGENCY CASES**

**Rajesh Sangram**

### **Scenario in Emergency**

Medico-legal problems in the practice of Medicine are common but relatively infrequent. Many-a- times, a patient accompanied by either parents or relatives, or friends enter breaking all the barriers uttering the words emergency so as to draw attention of the physician to be attended first leaving all the waiting patients in queue. This disturbing and unconvincing situation will be faced by all the practicing doctors at least once in their life time.

The word "Emergency" means a sudden unexpected happening or sudden unforeseen occurrence or condition where there is a question of life and death.

Neither Indian law nor the orders of the Supreme Court and various High Courts of India have defined medical emergency. Therefore the definition of medical emergency is still largely left to the discretion of medical professionals. It is an accepted practice that injured and critically ill patients are attended on priority by the doctors to save life. Often there is reluctance on the part of doctors to attend to the emergency needs of patients who, in medical jargon are "Medico-legal cases". This unwillingness is largely due to medical professionals with the instinct to evade the inconvenience associated with subsequent legal proceedings.

Many patients come to a doctor believing him to be "God". This attitude must change. As of now people's expectations are sky high, and they expect nothing short of a miracle. When the doctor is obviously

unable to work this miracle, their God is found to have feet of clay and is thus abused.

If doctors indicate on their hospital or nursing home board "24 hours emergency services available" make sure this is really the case. Otherwise it may amount to misrepresentation and make them liable if someone is not attended and suffers damage.

In case doctors cannot always provide round-the-clock service always, though this may be possible on most of the days, it is better to avoid announcing 24 hours services etc.

There are certain important ethical and legal aspects of emergency medical care that medical professionals' needs to be aware of and these are as follows:

- The legal and ethical obligations of a medical practitioner to attend to the emergency medical needs of a patient are total, absolute and paramount.
- Every doctor, either in a Government hospital or in private practice, is duty bound to immediately attend to and protect lives of injured victims brought before him.
- It is the constitutional obligation of the State to provide adequate medical services to the people.
- The Indian Medical Council (professional conduct, etiquette and ethics) Regulations, 2002 unambiguously states that a medical professional should attend to a patient in an emergency.

### **Necessary aid**

Head injuries are very common in the traffic accidents. The doctor who is first approached would start giving first aid and apply stitches to stop the bleeding. However, what is often seen is that doctors act with fear of facing legal proceeding do not give first aid to the patient, and instead tell him to proceed to the hospital by which time the patient may develop other serious complications.

In cases of an accident, injury and emergency, after providing

necessary first-aid, the patient is referred to the higher centre, but the patient dies during transport would not be the liability of the doctor. Rather, delay in referral by the doctor could constitute negligence. Remember, not to forget to inform the police if it is a medico-legal case.

### **Doctor in the court**

Medical professionals harbour apprehensions about being witnesses facing police interrogation and having to repeatedly visit police stations and losing their valuable earning hours. Especially the private practitioners are under the wrong impression that emergencies which are mostly medicolegal cases are dealt with or are to be dealt with only by Government doctors. For the Government doctors there is no option but they are obliged to attend on medicolegal case (MLC). The private doctors usually refuse and refer such a case to a Government hospital as there is no authority which can compel any doctor to attend on any particular case unless there is a military regime.

It is the duty of every human being to help others in case of emergency. This responsibility is accentuated in cases of medical profession and every attempt should be made to provide the patient emergency care required for his well being. No person shall be denied first aid and immediate management, once he walks into a clinic to the extent possible in that particular setup, irrespective of ability or inability to pay.

The doctors are also reluctant to be a witness in a court of law as they may be required to attend the proceedings on multiple occasions, wait for a long time and sometimes face long and unnecessary cross examination. They prevent medical professionals from doing the needful when a person requires emergency treatment.

To allay these apprehensions the Supreme Court held in *Paramanand Katara. V. Union of India* that "The police, the members of the legal profession, law court and everyone concerned will also keep in mind that a man in the medical profession should not be unnecessarily harassed for purposes of interrogation or for any other formalities and should not be dragged during investigation at the police station. Our law cases will not summon a medical professional to give evidence unless

the evidence is necessary and even if he is summoned, attempt should be made to see that the men in this profession are not made to wait and waste time unnecessarily. It is also expected that where the facts are so clear it is expected that unnecessary harassment of the members of the medical profession either by way of requests for adjournments or by cross examination should be avoided".

Correct observations made by the Supreme Court are not only gratifying but also make sense. The public needs to be educated about the fact driven by the court that no sensible professional would intentionally commit an act of omission which would result in loss or injury to the patient as the professional reputation is at stake. A single failure may cost the doctor dear in his career; medical practitioner faced with emergency situation ordinarily tries his best to redeem the patient out of suffering.

In an emergency or a critical case, it is the implicit duty of a noble profession to treat the injured person without waiting either for consent or for fees. The refusal to give treatment would even be violative of the provisions of the code of medical ethics and would constitute a deficiency in service.

In a concurring judgment it said, 'when a man in a miserable state hanging between life and death reaches the medical practitioner either in a hospital run or managed by the state, public authority or a private person or a medical professional doing only private practice he is always called upon to rush to help such an injured person and to do all that is within power to save life. It is a duty coupled with human instinct which needs neither decision nor any code of ethics nor any rule or law'.

### **Triage and Emergency**

Stedman's Medical Dictionary defines 'Triage' as the medical screening of patients to determine their relative priority for treatment; the separation of a large number of casualties, in military or civilian disaster medical care, into three groups.

1. Those who cannot be expected to survive even with treatment.
2. Those who will recover without treatment; and

3. Those who need treatment to survive.

The doctor has the absolute right to decide which patient he would examine first and even out of turn, depending on the condition of the patient.

Triage means allocation of injured patients into certain categories, a common scheme being as follows:

1. Critical: within seconds
2. Immediate: within minutes
3. Urgent: within the "golden hour"
4. Deferred: as soon as practical.

### **What the IPC says**

Sections 80 and 88 of the Indian Penal Code (IPC) contains defenses for doctors accused of criminal liability. Under Section 80 (accident in doing a lawful act) nothing is an offence that is done by accident or misfortune and without any criminal intention or knowledge in the doing of a lawful act in a lawful manner by lawful means and with proper care and caution. According to section 88, a person cannot be accused of an offence if he/she performs an act in good faith for the other's benefit, does not intend to cause harm even if there is a risk, and the patient has explicitly or implicitly given consent.

Section 92 of the IPC offers legal immunity for a registered medical practitioner to proceed with appropriate treatment even without the consent of the patient in an emergency, when the victim is incapable of understanding the nature of the treatment, or when there are no legal heirs to sign the consent.

If the patient is conscious and refuses treatment without which the person might endanger his/her life, then the surgeon can inform the judicial magistrate and get the sovereign power of guardianship over persons under disability.

In *New India Assurance Co. Ltd. V Dr. Kritkumar S Shera* case,

it was held that there is a difference in the degree of care, caution and skill in normal times and in the care of an emergency, nobody can expect the same degree and amount of care, caution and skill. The amount of care, skill and caution expected of a reasonable and prudent medical practitioner may not be the same during an emergency.

In *Amid Ali Shakir V St John's Medical College Hospital, Bangalore*, it was held that reasonable delay in shifting the accident victims to the operation theater because of the necessity to correct the shock is not negligent.

### Recommendations

The three member commission, headed by Justice Mr. Jagannadha Rao, drafted a bill pertaining to the private hospitals and practitioner on accident victims and emergency patients; if implemented the following guidelines are to be followed by the doctors.

- a) The Hospital can't refuse the accident victim even on the ground that it was a medico-legal case.
- b) The bill also stipulates punishment for refusing to admit, treat or transfer a patient after emergency treatment to another hospital.
- c) The commission lays down the punishment of six months imprisonment along with fine of Rs. 10,000/- to the doctor or persons running the hospital if an emergency treatment is denied.
- d) The commission says doctor would ensure provision of sufficient medical support en route for an unharmed transit of patient from one hospital to another.
- e) In case ambulance is not available, then doctor will seek the help of police to transfer the patient.

## DEATH AND ITS MEDICOLEGAL ASPECTS

**Chandrashekar TN**

**Thanatology:** Thanatology is a branch of subject of Forensic medicine that deals with death in all its aspects.

### Death:

Indian law defines death as permanent cessation or disappearance of all evidence of life at any time after live birth has taken place (Sec. 2 (b), Registration of Births and Deaths Act, 1969).has considered death as irreversible cessation of life and has classified it into two types

- Somatic /systemic/clinical
- Molecular/cellular

**Somatic Death:** Somatic Death it is the Complete and irreversible stoppage of circulation, respiration and brain functions (Bishop's tripod of life). Diagnosis of somatic death is difficult in conditions like suspended animation/apparent death.

**Moment of death:** The moment at which brain stops to work is the moment of death rather than respiration or cardiac function.

- Death is a process, and not an event.
- Medical advances- Ventilators, heart lung bypass machine have given rise to concept of brain death.

### Molecular Death:

Death of cells and tissues occurs individually.

- Takes place in about 3-4 hours after stoppage of vital functions

- Different tissues die at different times.
- Nervous tissues die rapidly, muscles live up to 1-2 hours.

Historically, medically and legally the concept of death was that of "Heart and Respiration Death". Heart Lung by pass machines, Ventilators and other devices, however have changed this medically in favour of new concept. "Brain Death" i.e. Irreversible Loss of brain functions.

The determination of brain death has assumed importance for two reasons:

1. the ability to support vegetative functions for prolonged periods after brain death, and
2. the need of organs for transplantation.

Transplantation of Human Organs Act (THOA) 1994 recognised and defined brain stem death.

### Types of Brain Death

There are three types of brain death and they are:

- Cortical or cerebral death
  - Brain stem death
  - Whole brain death
- a) **Cortical/cerebral death** :There is loss of power of perception by senses but brain stem is intact, so respiration continues and person goes into deep coma It is caused by cerebral hypoxia, widespread brain injury or toxic conditions
  - b) **Brain stem death**: Brain stem death is the present criteria to diagnose death as adopted by UK and India.

Cerebral cortex may be intact though it is cut off functionally by brain stem. There is loss of vital centers that control respiration and the ascending reticular activating system that normally sustains consciousness. . Thus the victim is irreversibly comatose and incapable of spontaneous breathing. It is caused by raised intracranial pressure cerebral oedema, intracranial hemorrhage etc.

- b) Whole brain death: Combination of cortical death and brain stem death.

### Brain stem death

Criteria (Harvard criteria)

- Unreceptivity and unresponsivity: Deep unconsciousness with no response to external stimuli or internal need, Unresponsive to deep painful stimuli.
- No movements and no spontaneous breathing
- No reflexes
- Flat isoelectrical electrocardiogram (EEG): Not essential but confirmatory

### Diagnosis :

- Patient must be deeply comatose
- The cause of coma should be established.
- The cause must be irremediable structural brain damage.
- Patient must be maintained on ventilator

**Exclusions:** Where the patient is under the

1. Effect of drugs -Barbiturates, Benzodiazepines, Opium, Neuromuscular blocking Agents.
2. Core temperature of body below 35°C - Hypothermia
3. Severe metabolic abnormalities such as uraemia, diabetic coma and Endocrine disease like hypothyroidism

Medically and legally the patient is considered dead when brainstem death has taken place. The same time should appear on death certificate.

### Brain death needs to be certified by a Board of doctor's consisting of :

- Registered Medical Practitioner (RMP) in charge of hospital where brain death has occurred.



### **Role of physician in certification of cause of Death**

- It is obligatory for a medical practitioner who last attended the deceased, to issue a death certificate
- Forward it to the registering authority.
- Must verify all relevant facts,
- Do utmost to arrive at the cause of death,
- The cause of death is recorded according to international conventions; the sequence that being adopted by the WHO.
- To be based only on clinical findings and not on extraneous factors,
- Suspicion / unnatural death - certify death (not cause of death) and inform police,
- Death certificate not to be withheld/ delayed or refused because of not having received his professional fees.

### **Prerequisites for certification of cause of Death**

- Institutional doctors should fill Form No. 4 along with Form No. 2
- Non-Institutional doctors should fill Form No. 4(A) along with Form No. 2

**Social aspects of certification of cause of death;** Relatives may plead, persuade, pressurize, offer a price or threaten to issue death certificate.

### **Legal Aspects of certification of cause of Death**

- Death certificate is a legal document which is a proof of death,
- To be issued free of cost
- Failure to provide death certificate and cause of death, Physician can be prosecuted under Section 39 Cr.P.C.,175 I.P.C. or 176 I.P.C.

### **Ethical Aspects of certification of cause of Death**

- Preserve confidentiality except in cases of public interest (HIV / AIDS).

### **Tips for issuing Death Certificate**

- Issue free of charge,
- Don't delay issuing certificate,
- Do utmost to arrive at the cause of death,
- Take into consideration all your findings,
- Cause of death should be arrived at only on the basis of findings and not on extraneous facts,
- Do not write two or more conditions on a single line,
- Write legibly to avoid being misread,
- Do not use abbreviations to state the cause of death.
- Issue the certificate if attended the patient within past 7 days prior to his / her death,
- Issue a single copy of the certificate,
- Retain a carbon / duplicate copy for future reference.
- Do not sign blank certificate leaving the particular details to be filled by someone else.
- Fill in the appropriate forms (as per Registration of Birth and Death Act 1969),
- Never yield to plea, pressure, price, threat or to humanitarian grounds,
- Suspicious / unnatural deaths - certify death and inform police.

### **When you should not issue death certificate**

- Cause of death is not known
- Unnatural deaths
- Brought dead cases
- A crime has been already registered by the police
- The police has been already informed about the case

- Death within 24 hours of admission to casualty.
- Sudden deaths
- Suspect of starvation, exposure or neglect.
- Intra-or postoperative deaths and
- Suspicion of foul play

Postmortem examination must be carried out to ascertain cause of death in above cases. In cases of death occurring in Police Custody, Prison, Children Home, Mental hospital, police firing etc. Magistrate's inquest should be carried out before postmortem examination.

**Sudden natural death:** Death is said to be sudden or unexpected when a person not known to have been suffering from any dangerous disease, injury or poisoning is found dead within 24 hrs after the onset of terminal illness (WHO).

- Incidence is 10% of all deaths.
- No period in life is exempt.
- Aetiology: Cardiovascular problems (45-50%), Respiratory problems. (15-25%), CNS problems(10-15%), alimentary causes (5%), .Genitourinary causes (5%), 10% Mmscelaneous (10%), and obscure (5-10%) causes.

## CONSENT IN MEDICAL PRACTICE

**Rajendra N Kagne, Ananda Reddy**

### Introduction

Doctors practicing ethically and honestly should not have any reason for fear. Law whether civil, criminal or consumer, can only set the outer limits of acceptable conduct, i.e. Minimum standards of professional care and skill, leaving the question of ideal to the profession itself.

In recent years there have been a number of malpractice suits based on lack of consent or inadequate consent from the patient for procedures used in treatment. The common meaning of consent is permission, whereas the law perceives it as a contract, that is, an agreement enforceable by law.<sup>1</sup>

One of the essential features of establishing a contract is consent, which means "an agreement, compliance or permission given voluntarily without any compulsion".<sup>2</sup> The medical graduate (Registered Medical Practitioner) must know what is consent, its types, who can give consent, its relevance in medical practice, how to safeguard oneself from malpractice suits based on lack of consent or inadequate consent.

Obtaining consent is not only an ethical obligation, but also a legal compulsion. Hence, it is necessary to understand the importance of consent in medical practice and its legal framework..

### Consent

Consent is an agreement, compliance or permission given voluntarily without any compulsion. The consent is valid only if it is given after knowing the nature and consequence of the consent and those of the act for which it is given.<sup>3</sup>

## Types of Consent

Consent can be implied or expressed (Verbal or written).

**Implied Consent:** This is seen in routine medical practice and is quite adequate. Consent is implied in the mere fact that the patient comes to the physician with a problem or when a patient holds out his arm for an injection. The patient does not spell out his consent for treatment specifically. It is understood to have been given.

The reason for this is that, the procedure of diagnosis and treatment is simple and straight forward, the risks negligible and uncommon, and the conduct of the patient implies willingness to undergo treatment.

If there is slightest fear of a complication, the doctor should seek expressed consent to safeguard his interests.

**Expressed Consent** This may be written or verbal. Any procedure beyond the routine physical examination, like operation, collection of blood, blood transfusion etc. needs expressed consent. Consent must be taken before the proposed act and not at that time of admission to the hospital.

For major operations and diagnostic procedures, written consent should be obtained in the presence of a disinterested third party, such as a nurse or receptionist. The nature and consequence of the procedure should be explained to the patient before getting the consent.

**Informed Consent:** In medical practice anything beyond the routine would require this type of consent. Here the doctor explains to the patient the 'relevant details' regarding the nature of his disease, the diagnostic procedures involved, the course and alternatives to the treatment proposed, risks involved and the prognosis.

The relative chances of success or failure is explained so that the patient can take an intelligent decision after attaining a comprehensive view of the situation. This safeguards the interests of the doctor.

The patient may be in dire need for treatment, but revealing the risks involved (the law of "full disclosure") may frighten him to a refusal. This situation calls for the common sense and discretion of the doctor.

What should not be revealed may at times be a problem. In such

situations "Therapeutic privilege" is an exception to the rule of "full disclosure". The doctor may in confidence, consult his colleagues to establish that the patient is emotionally disturbed. Apart from this, it is good for the doctor to reveal all risks involved in confidentiality to one of the close relatives and involve them in decision making.

Informed consent has now become a must in all operations, anaesthesia procedures and complicated therapeutic procedures. In the years to come, with the great advances in science and awareness of people regarding their rights with respect to consent, informed written witnessed consent can only acquire an added importance.

## Emergency Doctrine

The emergency doctrine comes into play in situations where the patient will have to be treated without obtaining consent. An unconscious patient, non-availability of a relative or guardian, lack of time to contact them and the urgency of the situation are important factors which tolerate no delay in treatment.

In such situations the 'emergency doctrine' comes into operation and law presumes that consent is deemed to have been given. It protects the doctor interests, giving him immunity from proceedings against him for damages, for negligence or assault (IPC 92).

## Loco Parents

In emergency situations involving children, when their parents or guardians are not available consent is taken from the people who are on the spot.

For example a school teacher can give consent for treating a child taken acutely ill during a picnic away from hometown. Even if the parents refuse consent no blame will be attached to the surgeon for an operation done to save the life of a child.

## Blanket Consent

An all-encompassing consent to the effect "I authorize so and so to carry out any test/procedure/surgery in the course of my treatment" is not valid. It should be specific to a particular event. If, consent is taken for microderm-abrasion, it cannot be valid for any other procedure like

acid peel. Additional consent will have to be obtained before proceeding with the latter.

If a consent form says that the patient has consented to undergo laser resurfacing by Dr. X, the procedure cannot be done by Dr. Y, even if Dr. Y is Dr. X's assistant, unless it is specifically mentioned in the consent that the procedure may be carried out by Dr. X or Dr. Y (or his authorized assistants).<sup>4</sup> Blanket Consent is not legally valid.

### **Who can give consent?**

A child above twelve years can give valid consent to suffer any harm which may result from an act done in good faith and for its benefit. Thus a child above 12 years can give valid consent for physical examination, diagnosis and treatment.

A child under twelve years or an insane cannot give valid consent to suffer any harm which may occur from an act done in good faith and for its benefit (IPC 89). The consent of the parent or guardian should be taken. If they refuse, the doctor cannot treat the patient.

A child's agreement to medical procedures in circumstances where he or she is not legally authorized or lacks sufficient understanding of giving consent competently is called 'assent'. Children are considered to give "assent" when they have sufficient competence to understand the nature, risks, and benefits of a procedure, but not enough competence to give fully informed consent

A person above 18 years can give valid consent to suffer any harm which may result from an act done in good faith and which is not intended or known to cause death or grievous hurt (IPC 87 and 88)

Thus, if a surgeon operates on a patient in good faith and for his benefit, the surgeon cannot be held responsible if the operation ends fatally.

### **Relevance of consent in medical practices**

**Nature of illness:** The nature of illness of a patient should not be disclosed to a third party without his consent. A doctor can disclose a secret without consent, if it is a privileged communication.

A person undergoing trial has the right to prevent the doctor from disclosing his condition to a third party. Convicted persons have no such right and the doctor can disclose the matter to the authorities.

**Operation and treatment:** The consent of a spouse is not necessary for an operation or treatment of the other. Even for gynecological operations required to safeguard her health, consent of the wife alone is sufficient.

It is advisable to take the consent of the spouse if it involves danger to the life, impairment of sexual function or destruction of an unborn child. When an operation is made compulsory by law, for example, vaccination, no consent is necessary.

**Discharge against medical advice:** It is unlawful to detain an adult patient in the hospital against his will. If a patient demands discharge against medical advice, this should be recorded and his signature obtained.

**Professional negligence:** Consent is not a defense in professional negligence.

**Medicolegal context:** In medico-legal cases where an examination is requested by the law, consent must be obtained, whether it is the victim or the assailant that has to be examined. Examination without consent amounts to assault.

Examination may reveal findings, which when used in the process of investigations can damage the party examined. If later on the party is proved to be innocent, the damage sustained cannot be undone. This is why the right to deny consent for examination is generally given to the party.

Here consent is of the informed type. It is also said that the examination findings may go against him and can be used as evidence in the court.

**Insane person:** Consent is obtained from the parent/ guardian/ state/ relative (IPC 89).

**Criminal cases:** Medical officer can examine an accused under arrest in a crime, without his consent when the request is made by a

Police officer not below the rank of an S.I. If the person is not willing, reasonable force can be used. (Cr. P.C. 53, 1973)

**Alcohol abuse:** Here the person should not be examined and blood, urine or breath should not be collected without his consent. If the person becomes unconscious and is incapable of giving consent to examination and treatment has to be carried out. The consent of the guardian or relatives, if available, should be taken. The findings should not be divulged to the police until after the subject regains consciousness and gives consent. When a person is deeply intoxicated and cannot comprehend the informed consent it is advisable to wait till he becomes sober and gives consent for divulging the findings to the authorities.

**Child offenders:** Consent for examination is obtained from the parent or guardian. When the requisition is from the Magistrate, consent for physical examination is not required.

**Marriage and conjugal obligations:** Marriage contract provides bilateral conjugal obligations for a sexual relationship. Therefore, in procedures like sterilization, artificial insemination etc. involving the genital organs of a married partner it is advisable to obtain informed consent from both the husband and wife. Failure in this situation may result in doctor being sued for damages for negligence.

**Rape:** The victim's consent is must and the examination shall be made only by, or under the supervision of, a female registered medical practitioner. (CrPC 53 & 54)

**Pregnancy:** Sometimes the diagnosis of pregnancy is difficult, especially in the early months and the patient tries to conceal it. Here before examination the physician must obtain, preferably in writing the consent of the woman in the presence of witnesses. Without the consent, physician can be sued by civil action for damages and criminal for assault.

Medical termination of pregnancy act (1971): Consent of the pregnant woman alone is sufficient provided she has attained the age of 18 years and is not a lunatic.

Consent for committing a crime or illegal act such as criminal

abortion is invalid, whether or not the act causes injury to the consenting party (IPC 91).

**Delivery:** Consent of the party concerned, is required before examination for evidence in delivery.

**Unconscious victim or assailant:** Examination findings can be divulged to the police only after the patient regains consciousness and consents for this disclosure.

**Prisoner:** Prisoner can be treated forcibly without consent, in the interest of the society.

**Inmates of hostel:** For treating an inmate of the hostel, consent is necessary if he is above 12 years. Within the age of twelve the Principal or Warden can give consent. If an inmate above 12 years refuses treatment and he is likely to spread the disease, he can be asked to leave. However, if he stayed on, he will be treated without consent.

**Autopsy:** It is improper and illegal to perform an autopsy without proper consent or authorization. Medico-legal autopsies do not require consent. Here autopsy is done on authorization. The statutory enactment enables the state to order an autopsy in all suspicious and unnatural deaths.

Clinical autopsy requires the consent of the surviving spouse or next of kin. Failure to get consent is grounds for a charge of mutilation of the deceased and the 'hurt' sustained by the legal heir of the deceased body (emotional trauma, mental anguish, mental hurt). If it is necessary to remove and retain part of the body for future study and examination specific consent must be obtained.

**Tissue transplantation:** A living donor above 18 years, provided he is not mentally defective can give consent for removal of tissues from his body during life. Consent should be obtained in writing after having been given independent medical advice as to the risk.

To remove tissues from the body after death, consent of the deceased should be obtained in writing at any time, or orally in the presence of two or more witnesses, during his last illness. Even if consent was given by the deceased during life, permission must be obtained from the person in possession of the body, before removal of tissues. (THOA-1994)

## How to safeguard oneself from malpractice suits(

Registered Medical Practitioner must follow following points to avoid malpractice suits based on lack of consent or inadequate consent

1. Take consent from a patient, or other valid authority, before undertaking any examination or investigation, providing treatment, or involving patients in teaching and research.
2. Discuss with their patients about their condition and treatment options in a way they can understand, and respect their right to make decisions about their care.
3. Get their consent as an important part of the process of discussion and decision making, rather than as something that happens in isolation.
4. Share the information in proportion to the nature of their condition, the complexity of the proposed investigation or treatment, and the seriousness of any potential side effects, complications or other risks.
5. Work with their patients on following principles to ensure good practice in making decisions.
  - Listen to patients and respect their views about their health
  - Discuss with patients what their diagnosis, prognosis, treatment and care involve
  - Share with patients the information they want or need in order to make decisions
  - Maximize patients' opportunities, and their ability, to make decisions for themselves
  - Respect patients' decisions.
6. Make an assessment of the patient's condition taking into account the patient's medical history, views, experience, knowledge, clinical judgment and the patient's views and understanding of their condition, to identify which investigations or treatments are likely to result in an overall benefit for the patient.
7. Explain the options to the patient, setting out the potential benefits, risks, burdens and side effects of each option, including the option to have no treatment.
8. Not to put pressure on the patient to accept a particular option which they believe to be best for the patient. The patient has the right to accept or refuse an option for a reason that may seem irrational or for no reason at all.
9. If the patient asks for a treatment that the doctor considers would not be of overall benefit to them then, discuss the issues with the patient and explore the reasons for their request. If, after discussion, the doctor still considers that the treatment would not be of overall benefit to the patient, they do not have to provide the treatment. But they should explain their reasons to the patient, and explain any other options that are available, including the option to seek a second opinion.
10. If patients are not able to make decisions for them, the doctor must work with those close to the patient and with other members of the health care team.
11. Check whether patients have understood the information given, and whether or not they would like more information before making a decision.
12. Make it clear that they can change their mind about a decision at any time. You must answer patients' questions honestly and, as far as practical, answer as fully as they wish.
13. No one else can make a decision on behalf of an adult who has the capacity. If a patient asks you to make the decisions on their behalf or wants to leave decisions to a relative, partner, friend, caretaker or other person close to them, you should explain that it is still important that they understand the options open to them, and what the treatment will involve. If they do not want this information, you should try to find out why.
14. If a patient insists that they do not want even this basic information, you must explain the potential consequences of them

not having it, particularly if it might mean that their consent is not valid. You must record the fact that the patient has declined this information. You must also make it clear that they can change their mind and have more information at any time.

15. Not to withhold information necessary for making decisions for any other reason, including when a relative, partner, friend or caretaker asks you to, unless you believe that giving it would cause the patient serious harm. In this context 'serious harm' means more than that the patient might become upset or decide to refuse treatment.
16. If you withhold information from the patient you must record your reason for doing so in the patient's medical records, and you must be prepared to explain and justify your decision. You should regularly review your decision, and consider whether you could give information to the patient later, without causing them serious harm.
17. Discuss a patient's diagnosis, prognosis and treatment options in the following way:
  - Share information in a way that the patient can understand and, whenever possible, in a place and at a time when they are best able to understand and retain it.
  - Give information that the patient may find distressing in a considerate way.
  - Involve other members of the health care team in discussions with the patient.
  - Give the patient time to reflect, before and after they make a decision, especially if the information is complex or what you are proposing involves significant risks
  - Make sure the patient knows if there is a time limit on making their decision, and who they can contact in the healthcare team if they have any questions or concerns.
18. Support your discussions with patients by using written material, or visual or other aids. If you do, you must make sure the material

is accurate and up to date.

19. It is your responsibility to discuss it with the patient. If this is not practical, you can delegate the responsibility to someone else, provided you make sure that the person you delegate to:
  - Is suitably trained and qualified
  - Has sufficient knowledge of the proposed investigation or treatment, and understands the risks involved
  - Understands, and agrees to act in accordance with, the guidance in this booklet.

If you delegate, you are still responsible for making sure that the patient has been given enough time and information to make an informed decision, and has given their consent, before you start any investigation or treatment.
20. Keep up to date with developments in your area of practice, which may affect your knowledge and understanding of the risks associated with the investigations or treatments that you provide. Clear, accurate information about the risks of any proposed investigation or treatment, presented in a way patients can understand, can help them make informed decisions.
21. Discuss with patients the possibility of additional problems coming to light during an investigation or treatment when they might not be in a position to make a decision about how to proceed. If there is a significant risk of a particular problem arising, you should ask in advance what the patient would like you to do if it does arise. You should also ask if there are any procedures they object to, or which they would like more time to think about.
22. Ensuring that decisions are voluntary, particularly in vulnerable subjects.
23. Respect a patient's decision to refuse an investigation or treatment, even if you think their decision is wrong or irrational.
24. Before accepting a patient's consent, you must consider whether they have been given the information they want or need, and

how well they understand the details and implications of what is proposed. This is more important than how their consent is expressed or recorded.

25. If it is not possible to get written consent, for example, in an emergency or if the patient needs the treatment to relieve serious pain or distress, you can rely on oral consent. But you must still give the patient the information they want or need to make a decision. You must record the fact that they have given consent, in their medical records.
26. Use the patient's medical records or a consent form to record the key elements of your discussion with the patient. This should include the information you discussed, any specific requests by the patient, any written, visual or audio information given to the patient, and details of any decisions that were made.
27. Before beginning treatment, you or a member of the health care team should check that the patient still wants to go ahead; and you must respond to any new or repeated concerns or questions they raise. This is particularly important if:
  - Significant time has passed since the initial decision was made
  - There have been material changes in the patient's condition,
  - In any aspect of the proposed investigation or treatment new information has become available, for example about the risks of treatment or about other treatment options.
28. Make sure that patients are kept informed about the progress of their treatment, and are able to make decisions at all stages, not just in the initial stage. If the treatment is ongoing, you should make sure that there are clear arrangements in place to review decisions and, if necessary, to make new ones.
29. You must record the discussion and any decisions the patient makes. You should make sure that a record of the plan is made available to the patient and others involved in their care, so that

everyone is clear about what has been agreed. This is particularly important if the patient has made an advance decision to refuse treatment. You should bear in mind that care plans need to be reviewed and updated as the situation or the patient's views change.

30. There is no standard format for taking consent for all the situations. The formats can be modified according to the need and preferably translated in the local language so that the patient can understand the nature of the consent clearly. This will also avoid complications in a suit filed by the patient with respect to consent.

Trust, openness and good communication will ensure a good relationship between doctor and patient. Doctor must respect human life, so that the patient will trust them. To justify that trust Doctor must meet the standards expected from them in following domains.

- Knowledge, skills and performance
- Safety and quality
- Communication, partnership and teamwork
- Maintaining trust

A consent form is a legal document. It must contain the name and the signature of the patient, two witnesses, and the doctor along with his registration number. There is no standard format for taking consent for all the situations. The formats can be modified according to the need and preferably translated in the local language so that the patient can understand the nature of the consent clearly. This will also avoid complications in a suit filed by the patient with respect to consent.<sup>7</sup>

The level of disclosure has to be case-specific. There cannot be anything called a standard consent form. No doctor can sit in comfort with the belief that the "consent" can certainly avoid legal liability.

"One cannot know with certainty whether consent is valid until a lawsuit has been filed and resolved"- This has been highlighted by the note of The California Supreme Court.<sup>8</sup>

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## Viscera, tissue and body fluids: Preservation and Forwarding Procedures

**Rajendra N kagne, Ananda Reddy**

### Preservation of viscera

#### Indications

Viscera of the victim have to be preserved in the following situations:

1. If death by poisoning is suspected by the police or by the doctor
2. Deceased was intoxicated or used to drugs
3. Cause of death was not found after autopsy
4. Death due to accident, suicide or homicide where suspicion of the use of intoxicants, sedatives or poisonous substance is raised
5. Advanced decomposition
6. Accidental death involving driver or machine operator
7. All brought dead cases to the casualty

#### Containers

□ Clean, white and wide-mouthed glass bottles of one liter capacity should be used.

□ Do not use rubber stopper, because it may extract poisons, such as chloroform and phenols.

□ Blood should be collected in screw-capped bottle of about 150 ml capacity.

#### Preservation and dispatch of viscera

1. The stomach and small intestine with their contents are preserved in one bottle, and the liver and kidney in another bottle. The blood and urine are preserved separately.
2. The stomach and intestines are cut open before they are preserved. The liver and kidney are cut into multiple small pieces for uniform preservation.

3. Only two-thirds of the capacity of the bottle should be filled with the viscera and preservative to avoid bursting of the bottle due to decomposition gas formation.
4. The bottle should be covered with a piece of cloth, and tied by a string and the ends should be sealed.
5. The bottles should be properly labeled.
6. Sample of preservative used should be preserved in a separate bottle.
7. The sealed bottles are put into a box which is locked and the lock is sealed.
8. A viscera forwarding letter to be sent to The Regional Forensic Science Laboratory.
9. The Key of the box and viscera forwarding letter (form) with a sample of the seal, is kept in an envelope, which is sealed and sent with viscera box.
10. The viscera box is handed over to the police after taking his signature.

## **PATIENT COUNSELING**

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# PRINCIPLES OF COUNSELING

Sumitha Nayak, Ranjan Kumar Pejaver

## Definition

The term Counseling denotes a wide variety of procedures for helping individuals achieve adjustment, such as giving advice, therapeutic discussions and the administration and interpretation of tests and vocational assistance.

Counseling is termed as a helping relationship that helps the individual to become self-sufficient, self-dependent and self-directed and to adjust themselves efficiently to the demands of a better and meaningful life. According to Carl Rogers, an effective counseling consists of a definitely structured permissive relationship that allows the client to gain an understanding of himself to a degree that enables him to take positive steps in the light of his new orientation. This simply means that, the process of counseling is one where in the counselor provides accurate and up to date information to the client (counselee) regarding the situation, and helps the counselee to take an informed decision which will allow him to lead a better and more meaningful life.

## What does counseling involve?

Counseling is a special area for providing services, as it involves clients who may or may not be directly in medical settings. Counseling is a set of activities, wherein the counselor uses his skill and expertise when working with the clients. These may involve different methods and activities like rational-emotive, psychoanalytic or behavioral, and is a continuous interaction between two or more persons. The counselor provides the facilities to help the counselee make a suitable choice, that in turn will help achieve the desired change or help to arrive at a suitable choice. The counselor assists the counselee to make an inter-

pretation of the facts relating to a choice, plan or adjustments which he needs to make. In effect, it is a process that takes place in a one-to-one social environment, in which the counselor who is professionally competent in relevant psychological skills and knowledge, seeks to assist the client in bringing about a voluntary change in the client. Medical counseling involves a combination of medical, holistic and mind-body techniques that reduce stress and anxiety and promote healing.

## Characteristics of a Counselor

A counselor is a therapist who serves as a model for the client. A counselor plays many roles while working with a counselee. He may be an educator, a source of support, an agent of change, a preventive counselor or a resource consultant. To be effective as a counselor, it is essential to possess certain qualities. The relationship of the counselor with the counselee should be honest and dynamic, and the counselor must be a humane person, who is capable of empathizing with the client or counselee. To be effective, the counselor must possess the following qualities:

Authentic, sincere and honest- the counselor must be totally honest with the counselee, as regards the choices that are available, the possible outcomes, the long term prognosis and the approximate cost of therapy. It is of utmost importance to gain the confidence of the counselee and this is impossible by being ambiguous, or hiding behind a façade of honesty.

## Listen attentively and express thoughts and ideas clearly.

**Maintain confidentiality.** This is an essential and unique feature of the relationship of the counselor with the counselee, and allows the client to completely confide all the personal secrets. This is essential for the counselor to understand and evaluate the client's problems and offer adequate solutions.

Understand that you are dealing with emotional individuals who

are under stress, and hence the counselor needs to be compassionate and empathetic towards the counselee.

Have a sense of humor- the counselor must have the capacity to accept his mistakes and to laugh at his own contradictions.

Make choices that are life oriented- the counselor must be committed to live life fully, and to offer choices that are life supportive rather than merely existential.

Have a sincere interest in the welfare of others- based on respect, trust, care and value of human life.

Be deeply involved in their work and derive meaning and satisfaction from it

Appreciate the influence of culture and respect the diversity of values espoused by other cultures. They must be sensitive to the differences in response arising out of social class, gender and race.

Maintain healthy boundaries with the counselee, despite being fully involved and empathetic with the client or counselee. The counselor must not carry around the problems of their counsees during their leisure hours, and this is essential to maintain balance in their lives.

### **Need for counseling**

The need for counseling could occur under varied circumstances in order to counter various problems, worries, misgivings or issues that a client may face. These may include:

***Fear of the unknown:*** Most often in medical settings, the patient may be seriously or terminally ill or maybe in an emergency situation that requires immediate surgery, specialized diagnostic techniques, or expensive medications that need to be administered urgently. The patient and attendants are fearful, and may be unaware of the gravity of the situation and hence need to be adequately counseled to understand the seriousness and possible prognosis of the condition. The patients themselves need counseling regarding the severity of their condition,

available treatment options and possible outcome and prognosis. In chronic conditions like drug abuse, HIV/ AIDS, malignancy or emergency situations, the patients are fearful as to what the future holds for them, despite taking adequate treatment.

***Fear of death, dying and grief:*** the patient who is seriously ill with a life threatening ailment, maybe fearful that he will not respond to treatment and would die soon. It is essential for a counselor to provide emotional support to the patient as well as the family members to face the difficult circumstances. Family members may have feelings of grief and phobias of loss of a loved one. All these need to be handled by the counselor in a very sensitive manner. Death of a family member especially offspring, spouse, parent etc can cause severe mental stress and grief, and the counselor needs to handle the delicate situation with immense care.

***Denial:*** is a common feeling amongst the patient as well as those close to him. Often the patient is unable to accept the fact that he suffers from a serious illness. Denial is a natural response and needs to be confronted only if it causes harm. Sometimes, denial can affect the counselors and they need to be constantly aware of this and be able to confront and overcome it.

***Shame and guilt:*** the patient suffers from guilt because he has neglected his health, or if he suffers from stigma bearing diseases like HIV/AIDS, alcohol or drug addiction, etc and failed to take the necessary precautions/ medication to avoid the grave situation. The family members also suffer from guilt at having someone close to them suffering from grave disease.

***Powerlessness, helplessness and loss of control-***the patient feels helpless as he is totally under the control of the physician and he has no control over his own body and his life and decisions. The family too feels a sense of powerlessness, as they are unable to do anything to alleviate the suffering of their loved ones.

**Frustration-** this sets in chronic illness cases, where they need to repeatedly visit the hospitals or meet the physician at regular intervals. Sometimes, the medications do not show the desired results, or the results appear very slowly. Under these conditions, the patient may develop extreme negativity which could lead to depression, low self esteem and feelings of extreme inadequacy. It could lead to self injurious behavior and suicidal tendencies, which need to be prevented by early recognition and adequate counseling.

**Anger, rage and hostility-** patients often feel anger and extreme rage when diagnosed with severe or terminal illness. They develop feelings of hostility and inadequacy and may refuse to accept the available treatment options. It is essential to empathize with these patients and explain the benefits of accepting and continuing the recommended treatment options.

### **Essential features of a counseling meeting**

The meeting between the counselor and counselee has a specific purpose and goal and would end as soon as is therapeutically possible. It is understood that while the counselor has more expertise and is responsible to make the meeting go well, it is the counselee who is more important.

The interactions are structured to make efficient use of the time available. No time is lost in unnecessary talk. The relationship is one of interpersonal influence, in which the counselor seeks to promote change in the client through his skills and persuasive tactics.

Both the counselor and the client must come to an agreement as to the causes and etiology of the presenting complaints and what must be done in order to make things better. The most effective relationship are characterized by agreement on goals, consensus on methods and open communication and collaborative partnership.

The relationship is multidimensional, dynamic and changes over time. What is important in the early stages is less important during the

working stages, when an inter-actional pattern is developed to accomplish therapeutic tasks. Likewise, when counseling is ending, the relationship could return to an egalitarian pattern, much different from the initial stage.

### **The counseling meeting**

The meeting between the counselor and the counselee should take place at a predetermined time and place. The duration of the meeting may also be predetermined.

Both the parties should be made aware that what ever is discussed would be absolutely confidential. Both parties could freely ask and clarify any doubts arising during the session.

At the outset, the counselor must enquire about the language with which the counselee is familiar and comfortable and every attempt must be made to use this language during the entire meeting.

During the meeting, the counselee is encouraged to speak out and clear whatever apprehensions, doubts and thoughts have been disturbing the mind.

In acute medical conditions or in emergency situations, the counselor must give the client a complete and concise evaluation of the patient's condition, its seriousness and the possible outcomes, along with the likely cost of the entire treatment.

In chronic disabling diseases like HIV/AIDS or malignancies, the client must be motivated to accept and follow the physician's recommendations in terms of medication usage. The adverse effects of the medications or radio-therapy, the likely outcomes of therapy and the subsequent quality of life must all be discussed. In long drawn treatments, it is essential to discuss the possible costs and economic burden to the family as well as the follow up treatment, medications, investigations and reviews that may be needed.

Avoiding medical jargon and using language appropriate to each

parent's level of understanding is important. For example, early use of the term cerebral palsy to explain motor dysfunction of infancy or spastic paresis desensitizes parents to it and may open avenues of explanation regarding neurologic dysfunction and therapeutic intervention.

At the end of every session, it is essential to document all that transpired during the meeting, including what was conveyed by the counselor, the queries raised by the client, the clarifications offered and the possible solutions available. In cases of medical counseling, it is also essential to document the final decision taken by the client as regards the therapy options, with specific mention of the financial expenses that could be incurred. It is pertinent to mention, that in cases of medical counseling, it may be mandatory to place the client's signature at the end of this documentation.

### **Counseling approaches**

***Client-centered approach:*** Client-centered approach is a relatively simple method, in which the client feels reassured that he is deeply understood and his feelings are accepted. The counselor adopts a stance of active listening, and communicates with the client using a posture of empathic understanding, intently attending to the client's verbal and non verbal messages and interpreting the surface and underlying meanings. The counselor allows the client to reflect on his feelings. The client's situation and his feelings are viewed objectively, and it provides him an opportunity for emotional catharsis, by releasing the pent up tensions and pressure. The client is encouraged to move from a more superficial plane to explore deeper concerns and significant problems.

***Existential counseling:*** The main goal in existential counseling is to make the client understand and find personal meaning in their actions, their lives and their suffering. The emphasis here is on helping to make the client more aware of himself. It is basically an attitude towards living, and emphasizes the understanding and insight into the human condition. This has been described as a more abstract and may be difficult to apply in everyday living as well as for those with severe cognitive and emotional disturbances.

***Psychoanalytic counseling:*** Psychoanalytic counseling is the traditional Freudian method, which deals with different layers of awareness. Through the sessions of counseling, it is possible to peel away all the outer layers and reveal the unconscious thoughts, which are the allowed to surface. Often, the client uses various defense mechanisms, like projection, sublimation and fixation, in order to avoid accepting the undesirable or the responsibility of the irrationality, thus resulting in pain, stress and undue suffering. The psychoanalytic method is time consuming and could take several years to complete the treatment, hence is not too useful in situations where a large number of people require the services of a counselor, or in acute emergency situations.

***Gestalt counseling:*** Gestalt counseling is a method that focuses on the "what" and "how" of behavior and on the central role of "unfinished business". The client is encouraged to experience the present, and this facilitates greater self awareness and understanding. The technique involves making the client answer all questions with complete honesty and sincerity, thus converting the guilt into sentiments. By encouraging him to explore and express the internal resentment, the person can become unstuck and work through his unfinished business. However, this method has a high potential for abuse, as it encourages a "do your own thing" attitude, which may create a sense of irresponsibility.

***Alderian counseling:*** Alderian counseling is a remarkable theory that combines a pragmatic approach with some amount of psychoanalysis. The client is made to understand that reality is as we perceive it and not absolute, hence one need not be afraid of making mistakes. One must learn to do one's best and accept the outcome, without any feelings of inadequacy.

The counselor is free to choose any method that he is familiar and comfortable with. Sometimes, it may be essential to use a combination of the methods in order to achieve the desired results.

## The Counseling Process

The counseling process consists of six components that proceed in a sequential manner

- \* Diagnosing problems
- \* Setting appropriate goals
- \* Specifying objectives
- \* Generating and deciding among alternatives
- \* Preparing action plans
- \* Implementing and evaluating plans.

These steps follow a circular path rather than a linear path, as the sixth step may lead back to previous steps in case there is no satisfactory progress in the results.

**Diagnosing problems:** This is the first step that must be undertaken before any counseling can begin. Through a series of questioning techniques, statements or communications, it is essential to gather as much information as possible regarding the current problem, the background of the problem and the financial situation of the client. As further rapport is built up, the client may reveal sensitive information that may not be available at the beginning of the counseling relationship.

**Setting appropriate goals:** Once the problem at hand is understood, it is essential to set up goals. The goals are of two types:

- Process goals
- Outcome goals

Process goals are set by the counselor to build a productive relationship that could support the resolution of the client's problems and move towards the achievement of results.

Outcome goals are the responsibility of the client, which includes setting targets for getting out of problems and moving towards achievement of results. These should be specific, achievable and measurable goals, which can encourage the client to achieve the set goals.

**Specifying objectives:** It is not always possible for the client to achieve his goals, especially those that are long term. Hence it is essential to set interim objectives which can affect the client's behavior leading up to the final objective or goal. These objectives must also be precise, achievable and measurable and they act as milestones to show the client his progress towards his goals.

**Generating and deciding among alternatives:** Once the objectives are set up, the next step is to decide on how to accomplish the goals. First of all, ask the client if they have considered any methods to achieve their goals. By allowing them to do this, the counselor is encouraging them to attempt to regain control of their lives. Once the client has done this, the counselor may offer alternative suggestions, ask pertinent questions and mention the consequences of each suggestion. Allow the client to decide the alternative that he would like to adopt, as this is the only method by which he will learn to make life decisions and evaluate the results of his decisions.

**Preparing action plans:** By creating a written action plan, the client can be helped to understand the real cause of the problem and identify the remedial alternatives that are available to overcome the problem. The counselor can assist the client in planning action steps that will help to realize the selected remedial action. The counselor must urge the client to be committed to carry out the action plans and achieve the desired goals.

**Implementing and evaluating plans:** Both positive and negative feedback come into play at this stage. The constructive feedback will help to reinforce the client's actions that have resulted in achieving the desired goals. By tactfully suggesting methods that can be followed to achieve the goals that have not been fulfilled, it is possible to minimize the negative feedback, and keep the client continuously motivated to follow the action plan to achieve all the desired goals.

Counseling the patient and their care givers is an integral part of medical management. If provided in a scientific manner with compas-

sion it will be effective. It is important that the counselor knows his client's personality, the situation of the client and the options that can be offered and explained to the client.

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## MEDICAL COUNSELING IN SPECIAL SITUATIONS

Sumitha Nayak, Ranjan Kumar Pejaver

### Introduction

Counseling is an art as well as science. In medical sphere it is of utmost importance. Though the principles of counseling are the same across the board, some of specialties have unique situations which warrant more precise counseling techniques. Some of the salient ones are described below.

### Counseling in Pediatrics

Pediatrics is the branch of medicine that deals with the medical care of infants, children and adolescents, with the age range from 0-18 years. As such, every medical practitioner who handles children, should possess some counseling skills, as the major challenge is that not only does the child have to be treated, but the parents and the family too needs considerable counseling.

### Concepts in Pediatric counseling:

Children deal with similar stress factors as adults do, and their responses are varied due to their immaturity. Hence, children also may be faced with and need to deal with crime, addiction, disease, death and divorce in the family.

Children also face conflicts at home with issues related to medical problems like bed wetting, asthmatic attacks, chronic debilitating

illnesses like malignancies, congenital anomalies, dermatitis etc. Apart from this, issues related to academics, homework etc may produce immense stress at home. This may also result in conflicts with the teachers leading to behavioral changes. Peer pressure is another potent cause of conflict and disturbance both at home and at school. Older children and adolescents attempt to establish their own identity, which can lead to immense conflict, aggression and if unchecked can result in behavioral disturbances.

### **Behavioral disturbances**

Children can manifest any of the following disturbances, which would point towards an underlying disturbance and point to a need for counseling. These include:

- Aggressive or violent behavior
- Using abusive language
- Inability or difficulty in following rules
- Lack of friends, inability to interact and maintain social contact
- Extreme timidity or withdrawal from social interactions and activities
- Over dependent behavior
- Irritable, anxious, extremely fearful
- Uncontrollable crying, hysteria
- Sleep disturbances, nightmares

The responses of each child is different not only from adults, but amongst themselves. This is related to the

- age of the child at exposure
- the intelligence and capacity to accept changed situations
- the emotional stability of the child
- the method of reacting to stressful situations.

Under stress, the child develops various feelings and emotions

which are related to the immaturity and lack of understanding of the situation. These include feelings of

- Insecurity
- Stress
- Panic
- Fear
- Anxiety
- Separation

Children are disturbed when they witness others crying. They are also afraid of new situations and environment, like hospitals with large machines, unknown persons and equipments. Some children detest exposure to other child patients, and most children are afraid of injections.

Counseling by the primary care givers can help to provide a safe home environment which could go a long way in preventing disease, injury and accidents in children. Written consent for counseling sessions, surgery or any other interventions in children is given by the parents until the child achieves adulthood. In case the parents are unavailable, the next of kin or guardian must sign the consent form.

### **Methods of pediatric counseling:**

The conventional methods that are used in counseling can be used in pediatric counseling. These include the behavior and cognitive therapy, besides the psychoanalytic theory. Apart from this, play therapy is an extremely useful method for counseling children.

Play therapy is a technique whereby the child's natural means of expression via play is used as a therapeutic method to assist in coping with emotional stress or trauma. Children are provided therapeutic toys to enable them to express what they are unable to convey via words. The child is allowed to choose play items that have been placed on the table. By playing with selected materials, and with guidance from the

counselor, the child plays out his feelings and brings the hidden emotions to the surface.

### **Vulnerable infants**

Infants, especially newborns who suffer from serious illness, prematurity, congenital malformations or have been placed in the NICU are a special group, as the parents and family require extremely delicate handling as well as counseling. The commonest query that exists on the parents' mind is "will my baby survive?" and "will my baby be normal?" The parents experience extreme amounts of psychological trauma, fear of the unknown and feelings of guilt.

Counseling the parents of the high risk infants is challenging, as the staff need to be extremely compassionate while delivering information. It is ideal to plan a session as soon after the infant is admitted to the NICU, as this is the time to ascertain the parent's expectations regarding the outcome and follow up care of the infant. It is best to avoid medical jargon, use language appropriate to the parent's level of understanding and explain in simple terms even complicated issues like cerebral palsy, neuro-motor disabilities and likely outcomes.

While planning discharge and follow up, the counselor must stress the uncertainty of outcomes especially in ELBW infants, as well as the propensity of the later appearance of dysfunction must also be discussed. A stable and consistent home environment always improves the outcomes, while disruption of the family unit only serves to potentiate unfavorable outcomes in the infant.

### **Counseling in Obstetric patients**

Prenatal genetic counseling plays an important role to identify families that maybe at risk of having a baby with a birth defect or a genetic syndrome. Genetic counseling may be offered prior to conception in order to discuss issues related to maternal age, family history concerns, history of miscarriage and other reasons.

Patients may be referred for genetic counseling for a variety of reasons, which include:

- First trimester screening
- Abnormal maternal serum screening
- Advanced maternal age
- Abnormal ultrasound examination
- Recurrent miscarriage
- Family history of a birth defect or genetic disease-

Obesity in pregnancy is associated with higher risks of complications. These women require preconception counseling during which it is mandatory to provide specific information regarding maternal and fetal risks. Obesity is associated with increased risks of premature delivery, ante partum still birth, as well as higher risk of congenital malformations including neural tube defects which are harder to detect by Ultrasonography. Intra partum complications include emergency cesarean delivery, challenges with anesthesia, intra operative respiratory events, excessive blood loss, wound infection, endometritis etc. These women must be counseled about all the complications and must be encouraged to undertake a weight reduction program, nutrition counseling and recommended exercise regimen.

### **Fetal loss and stillbirth**

Perinatal loss is a unique bereavement for parents and families, as it is unlike that of mourning on the death of a loved one. Miscarriage, stillbirth, fetal anomalies and therapeutic abortions for genetic or congenital anomalies, creates a loss of self esteem in the parents, apart from the actual loss of the wished-for child. There is a sense of loss of confidence in the capacity to produce a healthy child. A sense of despair and confusion appears in the family that was anticipating a joyous event. This grief is usually a long term process, that extends much beyond the discharge from hospital. The process of counseling during the prenatal, intra partum and postpartum phase along with continuation of

support after discharge, promotes healthy grieving and avert a pathological process. The surviving siblings also need to be cared for, as they may be vulnerable to the effects of unresolved or unacknowledged grief. The counselor needs to empathize with the family and assist them to give up some of the feelings that they have invested in a person who no longer exists.

In case of medical termination of pregnancy (MTP) due to medical reasons like congenital anomalies, genetic defects or maternal causes like severe anemia, ABO incompatibility etc which threaten the existence of the mother or fetus, the parents must be counseled regarding the risks involved in continuing such pregnancy. Under such conditions, after all the risks and possible outcomes are explained, it is essential to take a written consent from the parents for performing the termination of pregnancy. This must be in a language that is known and easily understandable by both the parents.

### **Cesarean section delivery and Instrumental delivery**

In cases where the possibility of a normal vaginal delivery has been ruled out, the obstetrician must explain in detail the reasons why this would not be possible. The risks involved to mother and fetus, in attempting the vaginal delivery is explained to the husband as well as the close family members. The procedure is explained, the outcome and the possible complications must be told to the husband. A written consent to perform the caesarean section or insertion of forceps, is taken by the obstetrician. At the same time, the anesthetist must, after explaining to the husband and the family members, take a written consent for the administration of anesthesia- both epidural and general anesthesia. The risks involved and the possibility of any side effects of the anesthetic used must also be explained to the husband and family members.

### **Gynaecological surgery**

Postmenopausal women may develop manifestations of pre existing lesions that may warrant the need for hysterectomy. Sometimes

this may need to be done even during the earlier years of life. This involves, permanent removal of internal organs, the woman must be counseled by her gynecologist regarding the implications of this procedure on her future life. There may occur the need to administer continuous hormone therapy post surgically. The indications for this and the possible side effects must be explained in detail. While the consent for surgery must be taken from the patient and the nearest kin, the procedure, risks involved and the post operative progression must also be completely explained to the patient and the family members.

### **Counseling in Critical Care patients**

Patients undergoing critical care treatment in the ICU settings develop feelings of psychological distress, with increasing morbidity. These symptoms are related to the total dependency on others, fear and lack of awareness of the disease process and its outcome, as well as the worry regarding the financial capability to clear the hospital bills.

### **Need for counseling in ICU patients**

For most ICU patients, the experience is synonymous with immobility and total dependence on high technology equipment. Most patients are overwhelmed by what they see around them and may be reluctant to even move, despite being able to do so. This would further complicate the underlying morbidity and worsen the patient's dependence on others. Those who have been immobilized for long durations, have low endurance, generalized weakness, low tolerance to sitting etc, all of which needs to be reversed at the earliest.

In the ICU family visits are restricted to a few minutes, with no privacy at all. The ICU is termed as " low stimulus environment" as it results in sensory deprivation, exposure to meaningless or unpatterned stimuli, social isolation and immobilization, all of which may lead to generalized disorientation of time and thought and occasionally result in delirium.

In case the ICU patient's condition deteriorates while on treatment, the family members must be immediately informed regarding the change in status. They must be counseled on the available treatment modalities and they should be allowed to decide whether aggressive methods must be adopted for treatment or not. In case they do not agree to the suggested therapy, it is essential to document it and take a signature of the responsible family member. In case there is any delay in instituting therapy, this also must be documented and the family members should be informed with a signed documentation of the counseling done.

### **ICU stress disorders**

Not only during stay in the ICU, but also after discharged from there, several patients persistently have stress and psychological disorders. These include anxiety, depression, and post traumatic stress disorder (PTSD), with a frequency ranging between 40-60% of cases. The quality of life has been found to be the worst in those who had undergone mechanical ventilation or in those who had suffered from severe trauma or sepsis. The symptoms of PTSD vary based on the cause of ICU admission. In those who had sustained trauma, there may be re-experience of the trauma and avoidance of stimuli that may act as reminders of the pain. Nightmares, vivid details during waking hours and intrusive memories can recur. Hyperarousal with sleep disturbances, irritability and concentration difficulty may further aggravate the psychological disturbance. All these disorders may persist for a long while even after discharge from ICU.

### **Counseling outcomes**

Intra ICU counseling of critical care patients can go a long way in reducing the morbidity and improving the patient outcome, in terms of recover and rehabilitation. Counseling to provide motivation to live and participate in life saving medical regimens will improve outcome. Interventions to restore activities of daily living along with encouragement to participate in these activities will restore a sense of daily routine and personal independence. Relaxation techniques together with indi-

vidualized activity program using meaningful tasks will help to promote cognitive and motor recovery.

Together with counseling of the patient, it is essential to counsel the family on a regular basis, with updates on the clinical evolution, the requirement for various investigations must be explained in detail along with the costs and its impact on treatment. The counselor must understand the family's expectations for the ICU patient and empathize with their feelings of fear, guilt or anxiety. In cases where death is imminent, it is important to discuss the change in the treatment goal. The family is counseled regarding the futility of further aggressive treatment, and the goal of treatment can be changed to "comfort care" where the patient would be kept comfortable, with no aggressive or heroic interventions.

### **Counseling in surgical care**

Patients are advised surgery for various reasons, which may be elective surgery or emergency surgery. Usually in case of emergency surgery, the patient and the family members do not have much time nor desire to contemplate. nor negate the advice given by the medical practitioner. However, in cases of elective surgery, the patient himself and his family members may want complete details and counseling regarding the need for the procedure, details of the surgery to be performed, the possible risks and likely outcomes along with post operative care and return to normalcy.

The patient and the family usually have a fear of the unknown- the reason and severity of the disease process, the surgical procedure and possible risks. There is also a fear of death in case of surgical mishaps or complications.

### **Need for counseling**

Surgical procedures are considered as something that can have a life changing impact on the patient. It is essential for the treating doctor to spend time in explaining all the facts related to the surgical procedure in a language that is easily understood by the patient and the

family members. it is essential for the surgeon to don the role of a counselor. He must explain the need for the surgery as well as the surgical process in terms of what would be done during the procedure and the possible complications.. A brief must be given regarding the immediate post operative period, and should be followed up by the life style changes, diet modifications or medications that would be needed and the duration of all this must also be explained clearly. If possible the anaesthetist should also be a part of the counseling team.

In case the patient has any co-morbid medical problems, for which he is referred to a physician, it is necessary for the physician to explain the surgical risks that may occur due to the associated morbidity. While the counseling is done in the patient's own language, it is essential to document the same and affix the patient's signature to ensure that he has well understood all that has been conveyed during the session.

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## NATIONAL HEALTH PROGRAMMES

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## NATIONAL HEALTH PROGRAMMES

**Parasuramalu BG, Rajanna MS**

### **Introduction**

The registered medical practitioners play an important role in health care delivery system as they provide 60% of health care. They are often compelled to focus on providing curative services. But as 'social physicians' it is important for them to pay attention to preventive and promotive care and national health programmes and address these areas largely benefitting the poor and needy.

Medical practitioners play an important role in implementation of National programmes as they provide about 60% of the health care. So it is pertinent for them to know certain guidelines of the national health programmes to prevent and control communicable and non-communicable diseases which are prevailing in the community. The diagnosis, treatment and follow up of these diseases are mainly based on epidemiological studies and clinical trials. Hence it is important for the medical practitioner to follow diagnosis and treatment guidelines given under each National programme.

### **List of National Health Programmes**

1. National Vector Borne Disease Control Programme
  - a. National Anti-malaria Control Programme
  - b. Elimination of Lymphatic Filariasis
  - c. Kala-Azar
  - d. Japanese Encephalitis
  - e. Dengue Fever/ Dengue Haemorrhagic Fever
  - f. Chikungunya Fever

2. National Leprosy Eradication Programme
3. Revised National Tuberculosis Control Programme
4. National Aids Control Programme
5. National Programme For Control Of Blindness
6. Universal Immunization Programme
7. National Rural Health Mission
8. Reproductive And Child Health Programme
9. National Programme For Prevention And Control Of Cancer, Diabetes, Cardiovascular Diseases And Stroke
10. Integrated Disease Surveillance Project
11. National Mental Health Programme
12. National Guineaworm Eradication Programme
13. Yaws Eradication Programme
14. National Programme For Control And Treatment Of Occupational Diseases
15. Nutritional Programme
  - a. Vitamin A Prophylaxis Programme
  - b. Prophylaxis Against Nutritional Anaemia
  - c. Iodine Deficiency Disorders Programme
  - d. Special Nutrition Programme
  - e. Balwadi Nutrition Programme
  - f. ICDS Programme
  - g. Mid-Day Meal Programme
16. National Family Welfare Programme
17. National Water Supply And Sanitation Programme
18. Minimum Needs Programme
19. 20 Point Programme

## NATIONAL LEPROSY ERADICATION PROGRAMME

Leprosy is widely prevalent in India. A total of 0.92 lakh cases are on record as on 1st April 2013, giving a Prevalence rate (PR) of 0.73 per 10,000 populations.

Leprosy has to be considered in differential diagnosis in any patient with hypo pigmented, anaesthetic, anhydric, or alopecic patches.

Leprosy (Hansen's disease) is a chronic infectious disease caused by *M.leprae*. It mainly affects nerves. It also affects skin, muscles, eyes, bones, testes and internal organs. It is clinically characterized by one or more of the following features.

- a. Hypo or hyper pigmented patches.
- b. Partial or total loss of cutaneous sensation in the affected area - heat, cold, pain and light touch (the earliest sensation to be affected is light touch).
- c. Thickening of peripheral nerves, as demonstrated by definite thickening with weakness of the corresponding muscles of the hands, feet or eyes leading to disabilities or deformities.
- d. Demonstration of lepra bacilli in the skin lesions and nasal smear by skin slit scrap smear. (Fig 1)

In the field for the purpose of treatment leprosy is classified based on number of patches as:

- i. Pauci Bacillary (PB) - 1 to 5 skin patches
- ii. Multi Bacillary (MB) - more than 5 skin patches and nerve endings



Fig. 1 Showing hypopigmented patches

### 1. Adult

i. Multibacillary leprosy: Duration of treatment is 12 months.

Rifampicin 600mg	Once Monthly	Under Supervision
Dapsone 100mg	Daily	Self administered
Clofazimine 50mg	Daily	Self administered
Clofazimine 300mg	Once Monthly	Under Supervision

\* When clofazimine is unacceptable it can be replaced with Ethionamide or prothionamide.

ii. Paucibacillary leprosy: Duration of treatment is 6 months.

Rifampicin 600mg	Once Monthly	Under Supervision
Dapsone 100mg	Daily	Self administered

2. For children aged 10 - 14 years

i. Multibacillary leprosy: Duration of treatment is 12 months.

Rifampicin 450mg	Once Monthly	Under Supervision
Dapsone 50mg	Daily	Self administered
Clofazimine 50mg	Every other day	Self administered
Clofazimine 150mg	Once Monthly	Under Supervision

ii. Paucibacillary leprosy: Duration of treatment is 6 months.

Rifampicin 450mg	once monthly	Under Supervision
Dapsone 50mg	Daily	Self administered

3. For children below 10 years should receive appropriately reduced dosage of above drugs

### Advice to patient

- Leprosy is curable provided the drugs are consumed regularly, adequately and uninterruptedly. Most of the deformities are due to negligence which could have been prevented if patient is diagnosed early and takes the treatment regularly as per the schedule.
- Repeated examination of contacts
- Self care regarding prevention of disabilities.
- Ensure provision of MCR/protective footwear for needy persons
- Social support

### Other activities of medical practitioners include the following:

- Treat cases with ulcers and refer complicated ulcer
- Diagnose leprosy reactions type 1 & 2, neuritis and quite nerve paralysis. Treat them with - Prednisolone regime or refer them if not manageable

- Screen and refer willing cases for reconstructive surgery
- Ensure timely RFT after completion of MDT
- Ensure provision of MCR/protective footwear for needy persons
- Ensure follow-up of cases referred back from referral centre
- Ensure adequate self-care training is given to all patients with grade 1 & 2 disabilities.

Eradication of leprosy is not possible only by treatment of individual cases in the clinic or nursing homes. It is possible by good knowledge of epidemiology of leprosy, mode of transmission, early diagnosis, education, importance of complete treatment under supervision etc. The family physicians should coordinate with the governmental agencies like Dist Leprosy officer for elimination of leprosy.

### **NATIONAL PROGRAMME FOR CONTROL OF BLINDNESS**

A wide range of eye conditions (acute conjunctivitis, ophthalmia neonatorum, trachoma, superficial foreign bodies, and xerophthalmia) can be treated/ prevented at the grass root level by locally trained primary health workers who are the first to make contact with the community.

They are provided with essential drugs such as topical tetracycline, vitamin A capsules to manage the diseases. Vitamin A concentration solution and iron and folic acid can be procured from nearby PHC or maternity homes and dispensed to children and pregnant woman. Utilization certificates and beneficiary details are to be submitted to the health officers.

One of the important causes for blindness is cataract. Family physicians during their physical examination of the patients they can detect the cataract early and refer to suitable eye hospital (based on their socio economic condition) for treatment so that the patients will be treated at an early age. Similarly they can advice suitably regarding care of the eyes, food rich in Vitamin A etc.

### **REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME (RNTCP)**

Though India is the second-most populous country in the world, India has more new tuberculosis (TB) cases annually than any other country.

#### **A pulmonary TB suspect is defined as:**

- An individual having cough of 2 weeks or more
- Contacts of smear-positive TB patients having cough of any duration
- Suspected/confirmed extra-pulmonary TB having cough of any duration
- HIV positive patient having cough of any duration

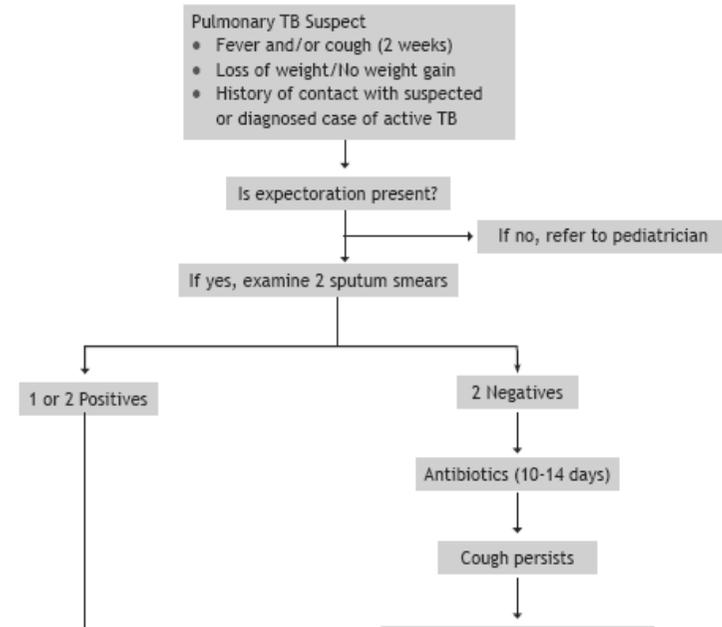
Persons having cough of 2 weeks or more with or without other symptoms are referred to as pulmonary TB suspect. They should have 2 sputum samples examined for AFB. Sputum smear microscopy is the primary tool for diagnosing TB as it is more specific and has less inter and intra-reader variability than X-ray chest.

A patient with extra-pulmonary TB may have general symptoms like weight loss, fever with evening rise and night sweats. Other symptoms depend on the organ affected.

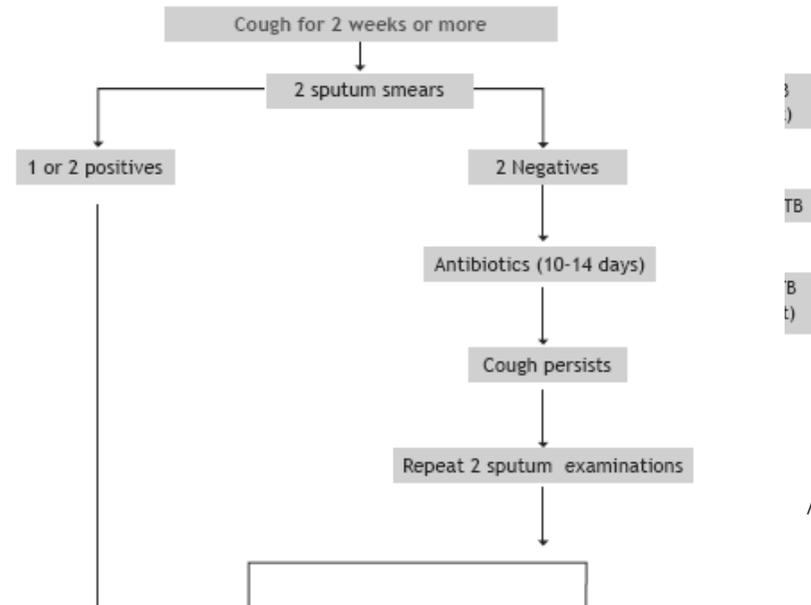
Examples of these symptoms are, swelling of a lymph node in TB lymphadenitis, pain and swelling of a joint in TB arthritis, neck stiffness and disorientation in a case of TB meningitis. Patients with EP TB who also have cough of any duration, should have sputum samples examined. If the smear result is positive, the patient is classified as pulmonary TB and his/her treatment regimen will be that of a case of smear-positive pulmonary TB.

# Diagnosis

Diagnostic algorithm for pediatric pulmonary tuberculosis



Diagnostic Algorithm for Pulmonary TB



Treatment Regimen		Sputum Examination for Pulmonary TB				
Category of treatment	Type of	Regimen	Pre-treatment	Test at	If result	then
New cases Category I Red	New sputum smear positive	2(HRZE)3	+	2	-	Start continuation phase, test sputum again at 4 and
	New sputum smear negative	+			+	Continue intensive phase for one more month. Complete the treatment in 7
Previously treated Category II Blue	Sputum smear-positive relapse	2(HRZES)3	+	3	-	Start continuation phase, test sputum again at 5 months, 6 months, comple-
	Sputum smear-positive failure	+ 1(HRZE)3			+	Continue intensive phase for one more month. test sputum again at 4 months if the sputum is positive send sputum for culture and drug sensitivity as it might be a case
	Sputum smear-positive treatment					
	After default					

E: Ethambutol, H: Isoniazid, MDR: Multi-drug resistant, R: Rifampicin, Z: Pyrazinamide

The number before the letters refers to the number of months of treatment. The subscript after the letters refers to the number of doses per week. The dosage strengths are as follows: Isoniazid (H) 600 mg, Rifampicin (R) 450 mg, Pyrazinamide (Z) 1500 mg, Ethambutol (E) 1200 mg, Streptomycin (S) 750 mg.

- Patients who weigh 60 kg or more receive additional rifampicin 150 mg.
- Patients who are more than 50 years old receive streptomycin 500 mg.
- Patients, who weigh less than 30 kg, receive drugs as per Paediatric weight band boxes according to body weight.

2. In rare and exceptional cases, patients who are sputum smear-negative or who have extra-pulmonary disease can have recurrence or non-response.

This diagnosis in all such cases should always be made by a Medical Officer(MO) and should be supported by culture or histological evidence of current, active TB. In these cases, the patient should be typed as 'Others' and given treatment regimen for previously treated.

The following are the daily doses (mg per kg of body weight per day) Rifampicin 10-12 mg/kg (max 600 mg/day), Isoniazid 10 mg/kg (max 300 mg/day), Ethambutol 20-25mg/kg (max 1500 mg/day), PZA 30-35mg/kg (max 2000 mg/day) and Streptomycin 15 mg/kg (max 1gm/day).

#### Follow up of Paediatric TB cases

For the monitoring of treatment, follow-up sputum examinations are to be performed with the same frequency in children as in adults. Clinical or symptomatic improvement is to be assessed at the end of the intensive phase and at the end of treatment. Improvement should be judged by absence of fever or cough, weight gain, etc. Radiological improvement is to be assessed by a chest X-ray examination in all smear-

negative pulmonary TB cases at the end of treatment (flowchart below). Radiological changes may persist and may not correlate with clinical improvement and hence should not cause concern.

Medical practitioners and their assistants can become a DOTS provider. The facilities for diagnosis and the anti tubercular drugs are available at free of cost at all primary health centres, TB units, DOTS (Directly observed treatment short course) centres

#### Advice to the patient

1. Patient should be advised to take the drugs regularly adequately and uninterruptedly as per the schedule.
2. The sputum should be collected in a container having a lid containing disinfectant like phenol and should be disposed safely to prevent the spread of the infection.
3. Patient should be instructed to close his mouth and nose while coughing, sneezing and talking to prevent the spread of infection to others.
4. He should keep the children away from him.
5. Ensure regular follow ups by the patient.
6. Ensure BCG vaccination administered to all children in the family.

Please note. Total number of Tuberculosis cases in India is estimated to be 4 per 1000 population. In Bangalore city with an approximate population of 0.8 million, the estimated number of Tuberculosis cases will be about 32,000. These cases should be diagnosed as Tuberculosis by sputum examination and should be treated as per RNTCP guidelines.

### NATIONAL AIDS CONTROL PROGRAMME

State/ Union Territory	Antenatal clinic HIV prevalence 2010-11 (%)	STD clinic HIV prevalence 2007 (most recent data) (%)	IDU HIV prevalence (%)	HIV prevalence (%)	Female sex worker HIV prevalence 2010-11 (%)
India	0.40	3.6	2.67	7.14	4.43
Karnataka	0.69	8.40	0.00	5.36	5.10

#### WHO case definition for AIDS surveillance:

For the purposes of AIDS surveillance an adult or adolescent (>12 years of age) is considered to have AIDS if at least 2 of the following major signs are present in combination with at least 1 of the minor signs listed below, and if these signs are not known to be due to a condition unrelated to HIV infection

#### Major signs

- " weight loss > 10% of body weight
- " chronic diarrhoea for more than 1 month
- " Prolonged fever for more than 1 month (intermittent or constant).

#### Minor signs

- " persistent cough for more than 1 month
- " generalized pruritic dermatitis
- " history of herpes zoster
- " oropharyngeal candidiasis
- " chronic progressive or disseminated herpes simplex infection
- " Generalized lymphadenopathy.

The presence of either generalized Kaposi sarcoma or cryptococcal meningitis is sufficient for the diagnosis of AIDS for surveillance purposes. For patients with tuberculosis, persistent cough for more than 1 month should not be considered as a minor sign

Diagnosis is done by Elisa test using 2 different kits and confirmation by western blot.

As it requires counseling and treatment, hence these cases are referred to Integrated Counseling and Treatment Centres, Anti-Retroviral Therapy centres where counselling and drugs are available at free of cost.

#### NACO ART CENTRES

Bowring & Lady Curzon Hospitals, Bangalore

Mysore Medical College, Mysore

K I M S Hubli

VIMS, Bellary

District hospital, Davangere

District hospital, Mangalore

District hospital, Gulbarga

District hospital, Belgaum

District hospital, Bijapur

District hospital, Kolar

District hospital, Raichur

Please note- There is increase in the prevalence of HIV/AIDS. Hence there is need for more information about HIV/AIDS among family physicians. The cases shall be diagnosed with the help of major and minor signs and shall be confirmed by lab tests. Family physicians should know where to refer the HIV positive cases for free laboratory diagnosis and treatment and necessary counseling facilities. (Facilities are available in all Government hospitals).

## UNIVERSAL IMMUNIZATION PROGRAMME (UIP)

National Immunization Schedule (NIS) for Infants, Children and Pregnant Women

Vaccine	When to give	Dose	Route	Site
<b>For Pregnant Women</b>				
TT-1	Early in pregnancy	0.5 ml	Intra-muscular	Upper Arm
TT-2	4 weeks after TT-1*	0.5 ml 0.5 ml	Intra-muscular	Upper Arm
TT-Booster	If received 2 TT doses in a pregnancy within the last 3 yrs*		Intra-muscular	Upper Arm

### For Infants

BCG	At birth or as early as possible till one year of age	0.1ml(0.05ml until 1 month age)	Intra-dermal	Left Upper Arm
Hepatitis B	At birth or as early as possible within 24 hours	0.5 ml	Intra-muscular	Antero-lateral side of mid-thigh
OPV-0	At birth or as early as possible within the first 15 days	2 drops	Oral	Oral
OPV 1,2 & 3	At 6 weeks, 10 weeks & 14 weeks	2 drops	Oral	Oral
DPT1,2 & 3	At 6 weeks, 10 weeks & 14 weeks	0.5 ml	Intra-muscular	Antero-lateral side of mid-thigh
Hepatitis B 1, 2 & 3	At 6 weeks, 10 weeks & 14 weeks	0.5 ml	Intra-muscular	Antero-lateral side of mid-thigh
Measles	9 completed months-12 months. (give up to 5 years if not received at 9-12 months age)	0.5 ml	Sub-cutaneous	Right upper Arm
Vitamin A (1stdose)	At 9 months with measles	1 ml ( 1 lakh IU)	Oral	Oral

DPT	16-24 months	0.5 ml	Intra-	Antero-lateral side of
OPV Boos-	16-24 months	2 drops	Oral	Oral
Japanese Encephali-	16-24 months with DPT/OPV	0.5 ml	Sub-cutaneous	Left Upper Arm
Vitamin A*** (2nd to 9th dose)	16 months with DPT/OPV booster Then, one dose every 6 months up to the age of 5 years.	2 ml (2 lakh IU)	Oral	Oral
DT Booster 0.5 ml. Intra-muscular Upper Arm	5-6 years	0.5 ml	Intra-muscular	Antero-lateral side of mid-thigh
TT	10 years & 16 years	0.5 ml	Intra-muscular	Upper Arm

BCG; Bacilli Calmette Guerin, D: Diphtheria, OPV: oral polio vaccine, P: Pertussis, T: Tetanus, TT: Tetanus toxoid

\*Give TT-2 or Booster doses before 36 weeks of pregnancy. However, give these even if more than 36 weeks have passed. Give TT to a woman in labour, if she has not previously received TT.

\*\* SA 14-14-2 Vaccine, in select endemic districts after the campaign.

\*\*\* The 2nd to 9th doses of Vitamin A can be administered to children 1-5 years old during biannual rounds, in collaboration with ICDS.

Please note. Now Pentavalent vaccine is available to prevent five diseases such as Diphtheria, Pertussis, Tetanus, Haemophilus influenza and Hepatitis B. Newer immunization schedule is mentioned here with. For booster dose DPT is administered. Newer schedule is applicable only for infants coming for first dose at 6 weeks of age.

Vaccines can be procured from nearby PHC or maternity homes and administered to children and pregnant woman. Utilization certificates are to be submitted to the health officers and also beneficiary details.

Age	Vaccines
Birth	BCG, OPV-1, HepB, Hib
6 weeks	DPT -1, OPV-2, HepB, Hib, Polio, TT-1
10 weeks	DPT -2, OPV-2, HepB, Hib, Polio, TT-1
14 weeks	DPT -3, OPV-3, HepB, Hib, Polio, TT-1
9 months	MCV-1
16-18 months	DPT -4, OPV-4, Hib, Polio, TT-2
5-6 years	DT, TT

Medical practitioners can help in diagnosis of non-communicable disease by screening of persons above the age of 30 years. Opportunistic screening of people can be done by the medical officers by blood pressure recording, blood glucose, lipid profile assessment. Diagnosed cases of non-communicable disease can be referred to CHC or higher centres. Health education and health promotion for behavioural and life style changes can be carried out by interpersonal communications, posters and banners etc at their clinic.



Hib as pentavalent vaccine introduction in immunization program



### Hypertension

Classification of blood pressure for adults

Blood Pressure Classification	SBP Mm Hg	DBP Mm Hg
Normal	<120	and <80
Pre-hypertension	120-139	or 80-89
Stage 1 Hypertension	140-159	or 90-99
Stage 2 Hypertension	>160	or >100

SBP, systolic blood pressure; DBP, diastolic blood pressure

### Treatment

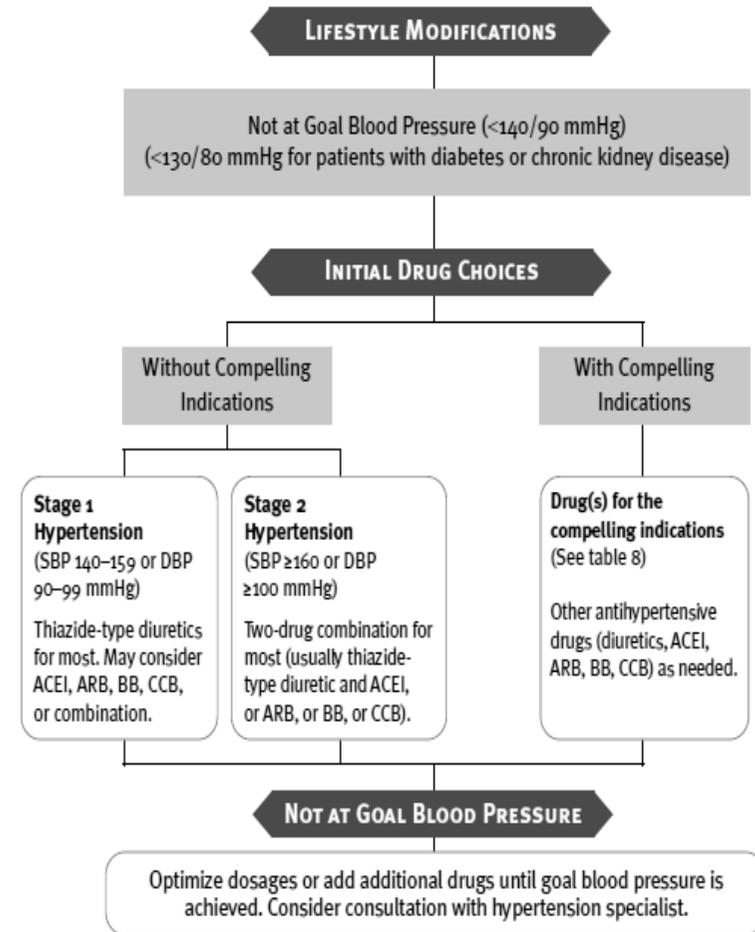
#### Life-style modifications to manage hypertension\*†

Modification	Recommendation	Approximate SBP Reduction (Range)
Weight reduction	Maintain normal body weight (body mass weight loss index)	5-20 mmHg/10 kg 18.5-24.9 kg/m <sup>2</sup> )
Adopt DASH eating plan	Consume a diet rich in fruits, vegetables, and low fat dairy products with a reduced content of saturated and total fat.	8-14 mm Hg
Dietary sodium reduction	Reduce dietary sodium intake to no more than 100 mmol per day (2.4 g sodium or 6 g sodium chloride).	2-8 mm Hg
Physical activity	Engage in regular aerobic physical activity such as brisk walking (at least 30 min per day, most days of the week).	4-9 mm Hg
Moderation of alcohol consumption	Limit consumption to no more than 2 drinks (1 oz or 30 mL ethanol; e.g., 24 oz beer, 10 oz wine, or 3 oz 80-proof whiskey) per day in most men and to no more than 1 drink per day in women and lighter weight persons.	2-4 mm Hg

DASH, Dietary Approaches to Stop Hypertension.

\* For overall cardiovascular risk reduction, stop smoking.

† The effects of implementing these modifications are dose and time dependent, and could be greater for some individuals.



DBP, diastolic blood pressure; SBP, systolic blood pressure.

Drug abbreviations: ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; BB, beta-blocker; CCB, calcium channel blocker.

### Diabetes mellitus

Current criteria for the diagnosis of Diabetes

- A1C > 6.5%. The test should be performed in a laboratory using a method that is NGSP certified and standardized to the Diabetes Control and Complications Trial (DCCT) assay; or

- Fasting plasma glucose (FPG) > 126mg/dL (7.0 mmol/L). Fasting is defined as no caloric intake for at least 8 h; or
- 2-h plasma glucose > 200 mg/dL (11.1mmol/L) during an oral glucose tolerance test (OGTT). The test should be performed as described by the World Health Organization, using a glucose load containing the equivalent of 75 g anhydrous glucose dissolved in water; or
- In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose > 200 mg/dL (11.1 mmol/L);

#### Screening for and diagnosis of GDM

Perform a 75-g OGTT, with plasma glucose measurement fasting and at 1 and 2 h, at 24-28 weeks of gestation in women not previously diagnosed with overt diabetes.

The OGTT should be performed in the morning after an overnight fast of at least 8 h.

The diagnosis of GDM is made when any of the following plasma glucose values are exceeded:

- Fasting: > 92 mg/dL (5.1 mmol/L)
- 1 h: > 180 mg/dL (10.0 mmol/L)
- 2 h: > 153 mg/dL (8.5 mmol/L)

#### Treatment

- Insulin therapy for type 1 diabetes
- Pharmacological therapy for hyperglycemia in type 2 diabetes
  - o Metformin, if not contraindicated and if tolerated, is the preferred initial pharmacological agent for type 2 diabetes.
  - o In newly diagnosed type 2 diabetic patients with markedly symptomatic and/or elevated blood glucose levels or A1C, consider insulin therapy, with or without additional agents, from the

outset.

- o If non-insulin monotherapy at maximal tolerated dose does not achieve or maintain the A1C target over 3-6 months, add a second oral agent, a glucagon-like peptide-1 (GLP-1) receptor agonist, or insulin.
  - o A patient-centered approach should be used to guide choice of pharmacological agents. Considerations include efficacy, cost, potential side effects, effects on weight, comorbidities, hypoglycemia risk, and patient preferences.
  - o Due to the progressive nature of type 2 diabetes, insulin therapy is eventually indicated for many patients with type 2 diabetes.
- Physical activity
    - o Adults with diabetes should be advised to perform at least 150 min/week of moderate-intensity aerobic physical activity (50-70% of maximum heart rate), spread over at least 3 days/week with no more than 2 consecutive days without exercise.
    - o In the absence of contraindications, adults with type 2 diabetes should be encouraged to perform resistance training at least twice per week.

#### Cancer

##### Warning Signs

- Unusual bleeding/discharge
  - Blood in urine or stools
  - Discharge from any parts of your body, for example nipples, penis, etc.
- A sore which does not heal
  - don't seem to be getting better over time
  - are getting bigger
  - getting more painful

- are starting to bleed
- Change in bowel or bladder habits
  - Changes in the colour, consistency, size, or shape of stools. (diarrhoea, constipated)
  - Blood present in urine or stool
- Lump in breast or other part of the body -
  - Any lump found in the breast when doing a self-examination.
  - Any lump in the scrotum when doing a self-exam.
  - Other lumps found on the body.
- Nagging cough
  - Change in voice/hoarseness
  - Cough that does not go away
  - Sputum with blood
- Obvious change in moles (Use the ABCD RULE)
  - Asymmetry: Does the mole look the same in all parts or are there differences?
  - Border: Are the borders sharp or ragged?
  - Colour: What are the colours seen in the mole?
  - Diameter: Is the mole bigger than a pencil eraser (6mm)?
- Difficulty in swallowing
  - Feeling of pressure in throat or chest which makes swallowing uncomfortable
  - Feeling full without food or with a small amount of food

Medical practitioners can provide health education regarding the warning signs and also play an important role in early diagnosis by investigations like pap smear for cervical cancer, self examination for breast cancer, oral ca and tobacco related cancers. For treatment they should refer to cancer institutes.

## **NATIONAL RURAL HEALTH MISSION**

The programmes to be integrated are existing programmes of health and family welfare including RCH II; national vector borne disease control programmes against malaria, filaria, kala-azar, dengue fever, Dengue haemorrhagic fever(DHF) and Japanese encephalitis; national leprosy eradication programme; revised national tuberculosis control programme; National programme for control of blindness; iodine deficiency disorder control programme, and integrated disease surveillance project

## **REPRODUCTIVE AND CHILD HEALTH PROGRAMME**

- All mothers should be registered as soon as the pregnancy is confirmed.
- All pregnant mothers should be advised to come for minimum 3 antenatal checkups
- 2 doses of Tetanus toxoid.
- All pregnant mothers should be advised to take prophylactic dose of Iron and Folic Acid tablets (100 mg of elemental Iron & 500 mcg of Folic Acid) daily for 100 days. In case of mild to moderate anemia, therapeutic dose in the form of two tablets daily (200 tablets) for 100 days has to be advised during the second and third trimester of pregnancy.
- Advise the mother to take adequate balanced diet.
- Early detection of High risk pregnancies and promptly referred to FRUs like maternity homes, district hospitals, community health centres and hospital attached to medical colleges to conduct institutional pregnancies.
- The eligible couples should be advised to delay first pregnancy and to have proper birth spacing by using contraceptive measures.
- Couple with completed family should be advised for permanent sterilization.

- Medical termination for unwanted pregnancies.
- For prevention and control of RTI/ STD, they should be advised for regular check up by the Gynaecologist and advice regarding the genital hygiene like the usage of sanitary pads and early diagnosis and treatment according to syndromic approach.
- Early diagnosis of dehydration and rehydration based on diarrhoeal diseases control programme guidelines.
- Should be involved in the acute respiratory infection control for which they should be trained to recognize and treat pneumonia based on respiratory rate and other guidelines.

For prevention and control of vitamin A deficiency under the programme massive doses of vitamin A are given to all children under 5 years of age. The first dose (1 lakh units) is given at nine months of age along with measles vaccination. The second dose (2 lakh units) is given along with DPT/OPV booster doses. Subsequently (2 lakh units each) are given at six months intervals. All cases of severe malnutrition one additional dose of vitamin A should be given.

Infants from age of 6 months to 5 years should be given iron supplementation in liquid formulation of 20 mg elemental iron and 100 microgram folic acid for 100 days in a year. For children from 6-10 years should be given 30 mg elemental iron and 250 microgram folic acid for 100 days in a year.

Vitamin A can be procured from nearby PHC or maternity homes and administered to children. Utilization certificates are to be submitted to the health officers and also beneficiary details.

## **INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESS**

(IMNCI)

### **RATIONALE FOR AN INTEGRATED EVIDENCE BASED SYNDROMIC APPROACH TO CASE MANAGEMENT :**

- Many well-known prevention and treatment strategies have already proven effective for saving young lives.

- As each of these interventions has been successful, accumulating evidence suggests that an integrated approach is needed to manage sick children to achieve better outcomes.
- Child health programs need to move beyond single diseases to address the overall health and well-being of the child.
- Many children present with overlapping signs and symptoms of diseases, a single diagnosis can be difficult, and may not be feasible or appropriate. This is especially true for first-level health facilities where examinations involve few instruments, negligible laboratory tests, and no X-ray.
- During the mid-1990s, WHO in collaboration with UNICEF and many other agencies, institutions and individuals, responded to this challenge by developing a strategy known as the Integrated Management of Childhood Illness (IMCI)

### **Key features of IMCI**

- IMCI is an integrated approach to child health that focuses on the well-being of the whole child.
- IMCI aims to reduce death, illness and disability and to promote improved growth and development among children under 5 years of age.
- IMCI strategy promotes the accurate identification of childhood illnesses in outpatient settings.
- Ensures appropriate combined treatment of all illnesses.
- Strengthens the counseling of caretakers.
- Speeds up the referral of severely ill children.
- Promotes appropriate care seeking behaviors, improved nutrition & preventive care & correct implementation of prescribed care

### **IMNCI- India**

- Incorporation of neonatal care as it now constitutes two thirds of infant mortality.

- Inclusion of 0-7 days.
- Incorporating National guidelines on Malaria, Anemia, Vitamin A supplementation and Immunization schedule.
- Training begins with sick young infant up to 2 months.
  - Proportion of training time devoted to sick young infant and sick child is almost equal.
- Skill based.
  - Home visits for young infants:

### Schedule

- All new-borns: 3 visits (within 24 hours of birth, day 3-4 and day 7-10)
- New-borns with low birth weight: 3 more visits on day 14, 21 and 28.
- Provision of home based new-born care to
  1. promote exclusive breastfeeding
  2. prevent hypothermia
  3. improve illness recognition & timely care seeking

### Components of IMNCI strategy

- i. Improvements in the case-management skills of health staff through the provision of locally-adapted guidelines on Integrated Management of Neonatal and Childhood Illness and activities to promote their use.
- ii. Improvements in the overall health system required for effective management of neonatal and childhood illness.
- iii. Improvements in family and community health care practices

## IMNCI components and intervention areas



### Principles of integrated care

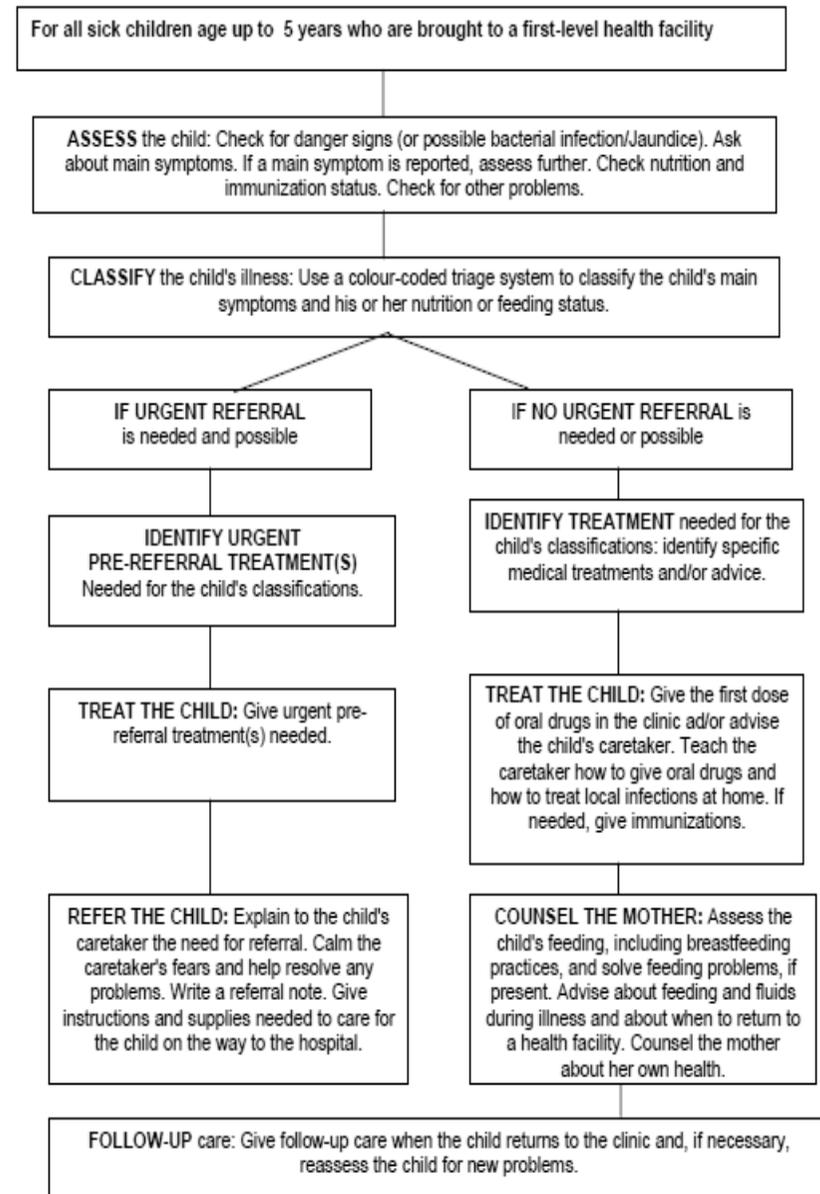
- All sick young infants up to 2 months of age must be assessed for "possible bacterial infection / jaundice". Then they must be routinely assessed for the major symptom "diarrhea".
- All sick children age 2 months up to 5 years must be examined for "general danger signs" which indicate the need for immediate referral or admission to a hospital. They must then be routinely assessed for major symptoms: cough or difficult breathing, diarrhea, fever and ear problems.
- All sick young infants and children 2 months up to 5 years must also be routinely assessed for nutritional and immunization status, feeding problems, and other potential problems.
- Only a limited number of carefully selected clinical signs are used, based on evidence of their sensitivity and specificity to detect disease.

- A combination of individual signs leads to a child's classification(s) rather than diagnosis.
  - Classification indicate the severity of conditions
  - They call for specific actions based on whether the child needs urgent hospital referral or admission (Classified as and colour coded pink)
  - needs specific medical Rx or advice (Classified as and colour coded yellow)
  - can be managed at home (Classified as and colour coded green)
- Use of limited number of essential drugs, and encouragement of active participation of caretakers in the treatment of infants and children.

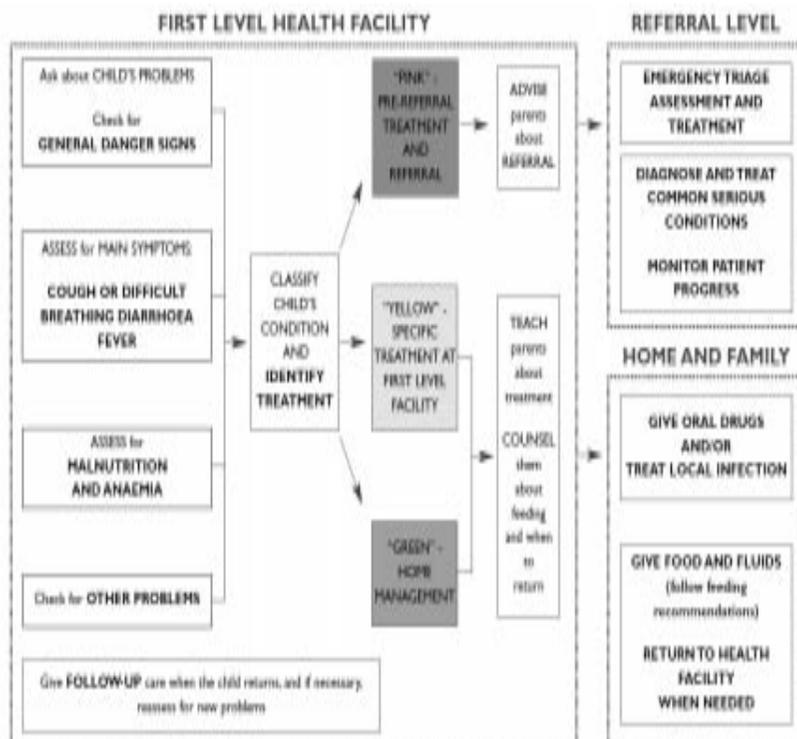
**Elements of case management process:**

- Assess - Child by checking for danger signs.
- Classify - Child's illness by color coded triage system.
- Identify - Specific treatments.
- Treatments- Instructions of oral drugs, feeding & fluids.
- Counsel - Mother about breast feeding & about her own health as well as to follow further instructions on further child care.

Figure 3. Summary of the Integrated Case Management Process



## IMCI case management at first level health facility, referral level, and home:



### Strengths of IMNCI:

- Evidence based management decisions
- Feasible to incorporate into both pre-service training & in-service training
- Hands-on clinical training for 50% of training time
- Focus on communication & counseling skills
- Locally adapted recommendations for infant and young child feeding.
- Cost effective
- Lowers the burden to hospitals
- Model to improve health care

## NATIONAL VECTOR BORNE DISEASE CONTROL PROGRAMME

Vector borne diseases are the major public health problems globally including India. Vector borne diseases are complex in nature. Their presence depends on numerous biological, social, economical and ecological factors.

### National Anti-malaria Control Programme

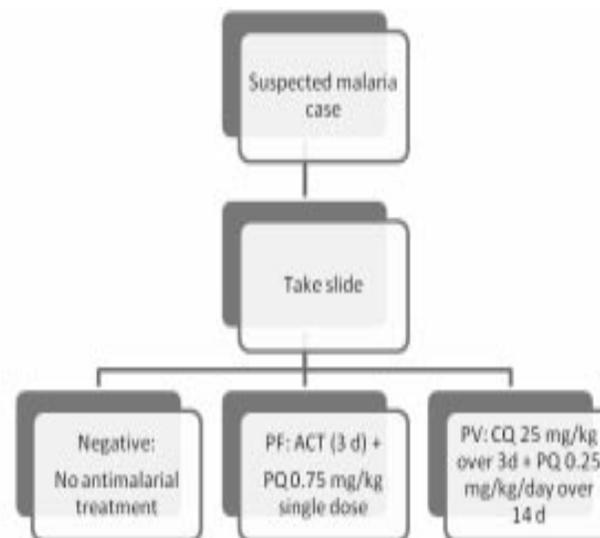
Symptoms of fever associated with chills and rigors should be examined for malarial parasite.

1. Peripheral blood smear
2. QBC method
3. Rapid diagnostic tests

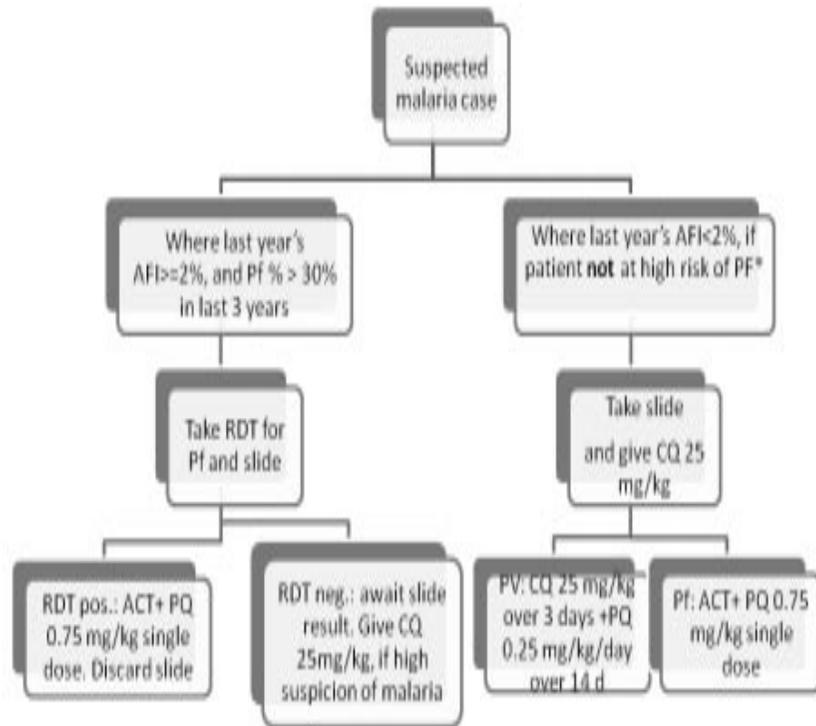
The most accepted is peripheral blood smear.

### Treatment

Where microscopy result is available within 24 hours



**Where microscopy result is available within 24 hours**



**Treatment of Vivax Malaria**

Diagnosis of vivax malaria may be made by the use of RDT (Bivalent) or microscopic examination of the blood smear. On confirmation following treatment is to be given:

Drug schedule for treatment of P vivax malaria:

1. Chloroquine: 25 mg/kg body weight divided over three days i.e.
  - 10 mg/kg on day 1,
  - 10 mg/kg on day 2 and
  - 5 mg/kg on day 3.
2. Primaquine\*: 0.25 mg/kg body weight daily for 14 days.

Primaquine is contraindicated in infants, pregnant women and individuals with G6PD deficiency. 14 day regimen of Primaquine should be given under supervision.

Dose schedule for Treatment of uncomplicated P.falciparum cases:  
1. Artemisinin based Combination Therapy (ACT-SP)\*

**Dosage Chart for Treatment of Vivax Malaria**  
Artesunate 4 mg/kg body weight daily for 3 days Plus

Age	Sulfadoxine (250 mg)	Pyrimethamine (25 mg)	CQ (250 mg)	PQ (2.5 mg)	CQ (250 mg)	PQ (2.5 mg)	PQ (2.5 mg)
Less than 1 yr	1/2	0	1/2	0	1/4	0	0
1-4 years	1	0	1	0	1/2	0	0
5-8 years	2	2	2	2	1	2	2
9-14 years	4	4	4	4	2	4	4
15 yrs or more*	4	6	4	6	2	6	6
Pregnancy	In India these species are very rarely found in few places. P. ovale should be treated as P. vivax and P. malariae should be treated as P. falciparum.						

In India these species are very rarely found in few places. P. ovale should be treated as P. vivax and P. malariae should be treated as P. falciparum.

P. vivax and P. malariae should be treated as P. falciparum.

**Treatment of severe malaria cases**

Severe malaria is an emergency and treatment should be given as per severity and associated complications which can be best decided by the treating physicians. Before admitting or referring patients, the attending doctor or health worker, whoever is able to do it, should do RDT

and take blood smear; give a parenteral dose of artemisinin derivative or quinine in suspected cerebral malaria cases and send case sheet, details of treatment history and blood slide with patient. Parenteral artemisinin derivatives or quinine should be used irrespective of chloroquine resistance status of the area with one of the following options:

#### Chemotherapy of severe and complicated malaria

Initial parenteral treatment for at least 48 hours: CHOOSE ONE of following four options	Follow-up treatment, when patient can take oral medication following parenteral treatment
<b>Quinine:</b> 20mg quinine salt/kg body weight on admission (IV infusion or divided IM injection) followed by maintenance dose of 10 mg/kg 8 hourly; infusion rate should not exceed 5 mg/kg per hour. Loading dose of 20mg/kg should not be given, if the patient has already received quinine.	<b>Quinine</b> 10 mg/kg three times a day with: doxycycline 100 mg once a day or clindamycin in pregnant women and children under 8 years of age, - to complete 7 days of treatment.
<b>Artesunate:</b> 2.4 mg/kg i.v. or i.m. given on admission (time=0), then at 12 h and 24 h, then once a day.  <b>or</b> <b>Artemether:</b> 3.2 mg/kg bw i.m. given on admission then 1.6 mg/kg per day.  <b>or</b> <b>Arteether:</b> 150 mg daily i.m for 3 days in adults only (not recommended for children).	Full oral course of Area-specific ACT:  <b>In NorthEastern states:</b> Age-specific ACT-AL for 3 days + PQ Single dose on second day  <b>In other states:</b> Treat with: ACT-SP for 3 days + PQ Single dose on second day

**Note:** The parenteral treatment in severe malaria cases should be given for minimum of 24 hours once started (irrespective of the patient's ability to tolerate oral medication earlier than 24 hours).

#### Elimination of Lymphatic Filariasis

Diagnosis is by peripheral blood smear examination for microfilaria among those who are having painful swelling of lower limbs with fever.

Medical officer can play an important role in mass drug administration (MDA) by advising

Diethyl carbamazine (DEC) 100mg

□ 2-5 Years 1 tablet

□ 6-14 Years 2 tablets

□ 15 Years and above 3 tablets

Plus 1 tablet albendazole 400 mg.

Pregnancy, children less than 2 years and people with severe illness and exempted from the programme. He can treat the individual cases by giving Diethyl carbamazine (DEC) 6mg/kg for 12 days. All should be advised to take personal protective measures against mosquito bites like insecticide treated nets, mosquito repellents such diethyl or dimethyl-benzamide.

#### Japanese Encephalitis

How JE is Diagnosed?

Clinical:

Clinically JE cases present signs and symptoms similar to encephalitis of viral origin and cannot be distinguished for confirmation. However, JE can be suspected as the cause of encephalitis as a febrile illness of variable severity associated with neurological symptoms ranging from headache to meningitis or encephalitis. Symptoms can include headache, fever, meningeal signs, stupor, disorientation, coma, tremors, paralysis (generalized), hypertonia, loss of coordination.

Laboratory:

Several laboratory tests are available for JE virus detection which include

**Antibody detection:** Heamagglutination Inhibition Test (HI), Com-

pliment Fixation Test (CF), Enzyme Linked Immuno-Sorbant Assay (ELISA) for IgG (paired) and IgM (MAC) antibodies, etc.

**Antigen Detection:** RPHA, IFA, Immunoperoxidase etc.

Genome Detection - RTPCR

Isolation - Tissue culture, Infant mice, etc

In view of the limitations associated with various tests, IgM ELISA is the method of choice provided samples are collected 3-5 days after the infection.

The cases are managed symptomatologically. Clinical management of JE is supportive and in the acute phase is directed at maintaining fluid and electrolyte balance and control of convulsions, if present. Maintenance of airway is crucial.

- In 2006 Government of India has initiated JE vaccination as a component of Universal Immunization Programme.
- Single dose live attenuated JE vaccine is given subcutaneously for children between 1 to 15 years of age.
- 11 endemic districts of 4 states included (UP, Assam, West Bengal, Karnataka).
- In Karnataka, Bellary, Kolar, Raichur, Koppal and Mandya, Dharwad and Bijapur districts are included.

## Dengue Fever

### Signs & Symptoms Of Dengue Fever

- Abrupt onset of high fever
- Severe frontal headache
- Pain behind the eyes which worsens with eye movement
- Muscle and joint pains
- Loss of sense of taste and appetite
- Measles-like rash over chest and upper limbs
- Nausea and vomiting

### Signs & Symptoms Of Dengue Haemorrhagic Fever And Shock Syndrome

- Symptoms similar to dengue fever
- Severe continuous stomach pains
- Skin becomes pale, cold or clammy
- Bleeding from nose, mouth & gums and skin rashes
- Frequent vomiting with or without blood
- Sleepiness and restlessness
- Patient feels thirsty and mouth becomes dry
- Rapid weak pulse
- Difficulty in breathing

### TREATMENT OF DENGUE & DHF

#### WHAT TO DO:

- Cases of Dengue fever/Dengue Haemorrhagic Fever (DF/DHF) should be observed every hour.
- Serial platelet and haematocrit determinations, drop in platelets and rise in haematocrits are essential for early diagnosis of DHF.
- Timely intravenous therapy with isotonic crystalloid solution can prevent shock and/or lessen its severity.
- If the patient's condition becomes worse despite giving 20ml/kg/hr for one hour, replace crystalloid solution with colloid solution such as Dextran or plasma. As soon as improvement occurs, replace with crystalloid.
- If improvement occurs, reduce the speed from 20 ml to 10 ml, then to 6 ml, and finally to 3 ml/kg.
- If haematocrit falls, give blood transfusion 10 ml/kg and then give crystalloid IV fluids at the rate of 10ml/kg/hr.
- In case of severe bleeding, give fresh blood transfusion about 20 ml/kg for two hours. Then give crystalloid at 10 ml/kg/hr for a short time (30-60 minutes) and later reduce the speed.

- In case of shock, give oxygen.
- For correction of acidosis (sign: deep breathing), use sodium bicarbonate.

#### WHAT NOT TO DO:

- Do not give Aspirin or Brufen for treatment of fever.
- Avoid giving intravenous therapy before there is evidence of haemorrhage and bleeding.
- Avoid giving blood transfusion unless indicated, reduction in haematocrit or severe bleeding.
- Avoid giving steroids. They do not show any benefit.
- Do not use antibiotics.
- Do not change the speed of fluid rapidly, i.e., avoid rapidly increasing or rapidly slowing the speed of fluids.
- Insertion of nasogastric tube to determine concealed bleeding or to stop bleeding (by cold lavage) is not recommended since it is hazardous.

### **Kala-Azar**

#### **What are Signs & Symptoms of Kala-Azar?**

- Recurrent fever intermittent or remittent with often double rise
- loss of appetite, pallor and weight loss with progressive emaciation
- weakness
- Splenomegaly - spleen enlarges rapidly to massive enlargement, usually soft and nontender
- Liver - enlargement not to the extent of spleen, soft, smooth surface, sharp edge
- Lymphadenopathy - not very common in India
- Skin - dry, thin and scaly and hair may be lost. Light coloured persons show grayish discolouration of the skin of hands,

feet, abdomen and face which gives the Indian name Kala-azar meaning "Black fever"

- Anaemia - develops rapidly

#### **Anaemia with emaciation and gross splenomegaly produces a typical appearance of the patients**

How Kala-azar is diagnosed?

- Clinical:
  - A case of fever of more than 2 weeks duration not responding to antimalarials and antibiotics. Clinical laboratory findings may include anaemia, progressive leucopenia thrombocytopenia and hypergammaglobulinemia

#### **What is the Treatment of Kala-azar?**

- Kala-azar Drugs available in India
  - o Sodium Stibogluconate (indigenous manufacture, registered for use & sale)
  - o Pentamidine Isethionate: (imported, registered for use)
  - o Amphotericin B: (indigenous manufacture, registered for use and sale)
  - o Liposomal Amphotericin B: (indigenous manufacture & import, registered for use and sale)



**Fig 2 showing distended abdomen due to massive splenomegaly**

- o Miltefosine (imported/ registered for use & sale)
- Drug Policy under Kala-azar Elimination Programme as per recommendations of Expert Committee (2000) - (This drug policy is under review)

### **Chikungunya**

Chikungunya usually starts suddenly with fever, chills, headache, nausea, vomiting, joint pain, and rash. In Swahili, chikungunya means "that which contorts or bends up". This refers to the contorted (or stooped) posture of patients who are afflicted with the severe joint pain (arthritis) which is the most common feature of the disease. Frequently, the infection causes no symptoms, especially in children. While recovery from chikungunya is the expected outcome, convalescence can be prolonged and persistent joint pain may require analgesic (pain medication) and long-term anti-inflammatory therapy. Infection appears to confer lasting immunity

Chikungunya is diagnosed by blood tests (ELISA). Since the clinical appearance of both chikungunya and dengue are similar, laboratory confirmation is important especially in areas where dengue is present. Such facilities are, at present, available at National Institute of Virology (NIV), Pune & National Institute of Communicable Diseases (NICD), Delhi.

There is no specific treatment for chikungunya. Supportive therapy that helps ease symptoms, such as administration of non-steroidal anti-inflammatory drugs like, and getting plenty of rest, may be beneficial. Infected persons should be isolated from mosquitoes in as much as possible in order to avoid transmission of infection to other people.

Eliminating mosquito breeding sites is another key prevention measure. To prevent mosquito bites, do the following:

- Use mosquito repellents on skin and clothing
- When indoors, stay in well-screened areas. Use bed nets if sleeping in areas that are not screened or air-conditioned.
- When working outdoors during day times, wear long-sleeved shirts and long pants to avoid mosquito bite.

