

**AMENDMENT TO CHAPTER VI & VII
GUIDE TO
MEDICAL OFFICERS
(MILITARY PENSIONS)**

MINISTRY OF DEFENCE

**GOVERNMENT OF INDIA
NEW DELHI
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FOREWORD

This publication is intended as a general guide for assessment of individual disabilities and their causal relationship to military service. In this publication the amendments to chapters VI and VII of the Guide to Medical officers Military Pensions (2002) has been incorporated. The two chapters have been revised with a view to include the recent advances in medical sciences so that the causal relationship of other relevant factors is brought up to date in accordance with the latest scientific opinions. This has also been done taking into consideration the Hon'ble Delhi High Court Order of Jun 2006 which had directed a High level committee to look into the disability pension disputes and reform the procedure. The complete revised Guide will be published when the Entitlement Rules amendments are completed by the Ministry of Defence.

In the amended chapter VI of the current edition, the Paras on Appendicitis, Colonic Polyp and diverticulosis, Diabetes Mellitus, Hernia, Hypertension, Ischemic Heart Disease, Low back - ache, Mental & Behavioural (Psychiatric) disorders and Neurological disorders etc. have been revised. Similarly in chapter VII, assessment of AIDS, defective hearing, diseases of the circulatory system, pulmonary tuberculosis, mental and behavioural disorders, skin diseases and neurological disorders etc. have been revised. This amendment should be carefully studied by members of the medical boards and all others concerned so as to apply the guidelines in an unbiased manner.

The contents of the manual reflect the close cooperation between Ministry of Defence, Ministry of Finance (Defence) and concerned officers of my directorate. I would like to express my appreciation to all those involved in the preparation of this manual.

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CHAPTER VI

CLINICAL ASPECTS OF CERTAIN DISEASES

1. AIDS. A viral infection caused by HIV Type I and II retroviruses, acquired through homo and heterosexual means, sharing of IV needles among drug abusers or unscreened blood transfusion and also by sharing of tooth brush and of razors.

Attributability: HIV does not kill by itself but weakens the immune system over a period of time leading to opportunistic infections/malignancy. Medical Boards will examine all evidence to establish a causal relationship between service related factors and exposure to HIV or otherwise. Where a causal relationship with service can be established, attributability may be conceded in the following cases:

- (a) Accidental infection by documented blood transfusions/ invasive procedures/ instrumentation in a service / referred civil/ private hospital.
- (b) Health Care Workers engaged in treatment and nursing where a possible causal relationship can be established. (Reference guidelines issued vide para 9(b) Annexure 4 of DGAFMS letter No 5496/DGAFMS DG-3A dated 18 Jun 2001).
- (c) Evidence of any other event relating to service with a strong likelihood of a causal relationship.

The following conditions will not be considered as attributable in relation to HIV infection:

- (a) Sexual contact with heterosexual exposures.
- (b) Intravenous drug abusers.
- (c) Homosexuals.

HIV Infection with Pulmonary Tuberculosis: Keeping in view the high prevalence of Tuberculosis in India, attributability may be conceded in the following circumstances:

(a) If Pulmonary Tuberculosis was the presenting feature and the individual was found to be HIV positive subsequently, attributability in such cases should be given to the individual with regard to Tuberculosis.

(b) If the individual had received treatment for Pulmonary Tuberculosis in the past. In such cases there is a strong likelihood that Pulmonary Tuberculosis is due to reactivation or relapse.

(c) Pulmonary tuberculosis developing in an established known case of HIV positivity at a later date should be considered as part of the AIDS complex. Attributability should not be considered for such cases.

(d) In cases where attributability of Tuberculosis is conceded, two diagnoses will be given viz:

(i) Tuberculosis ICD 011

(ii) AIDS ICD 042

Note: In cases where attributability is not conceded only one diagnosis of AIDS (ICD 042) will be given.

2. Adrenocortical Insufficiency. Primarily an idiopathic disease with a few cases accounted by systemic tubercular and fungal infection and also as a result of bacteremic infection e.g. pneumococcus, meningococcus, staphylococcus and sometimes as a complication of falciparum malaria. It will be appropriate to concede attributability in all such cases.

3. Anaemia (Aplastic). This condition may be either primary (idiopathic) or secondary.

The primary condition is rare, usually occurring in young adults and has been held as due to a congenital defect in the bone marrow. The disease is progressive and fatal.

The secondary variety may be the result of many factors. The most common are the toxic effects of certain chemicals (e.g.) benzol, T.N.T., arsenical drugs. Sulphonamides are occasionally a cause, as may be gold injections; x-ray and radium may give rise to this anaemia. Occasionally overwhelming septic infections may end with this type of anaemia.

Where full investigations have failed to reveal any of the known causes, then it would be reasonable to regard the disease as of idiopathic nature and unrelated to service as far as causation is concerned. However aplastic anaemia due to service related causative factors like septic infections and exposure to obnoxious agents in professions such as x-ray irradiation and chemicals in the case of factory workers and painters are acceptable as attributable to service.

4. Appendicitis

(a) Appendicitis is the commonest major surgical disease, affecting all ages and both sexes.

(b) Obstruction of the appendix lumen resulting in bacterial multiplication causes Acute Appendicitis.

(c) Fecoliths, intestinal parasites & sometimes tumours can cause obstruction of lumen.

All cases of Appendicitis will be considered attributable to service being infection contracted in service.

5. Bronchial Asthma. The term bronchial asthma would be reserved for those cases of chronic lung disease in which attacks of respiratory embarrassment develop. Bronchial asthma is essentially an allergic condition. The disease is predisposed by a variety of causes such as heredity, food, emanations from animals, bronchitis, and nasal sinus infection, respiratory tract infection such as bronchitis, nasal polyp, gastrointestinal irritation, climate (cold air), locality, emotion and nervous shock. The other exciting factors are tobacco, smoke, dust, strenuous exercise, certain drugs and exposure to organic materials, fumes and chemical substances in working environment.

Mere physical stress and strain occasioned with psychological factors are not appreciable cause of asthma. Asthmatics are very sensitive to both climate and locality but the effects are so variable in patients that no general rule can be laid down. Some patients are better in dry and others in damp and foggy climate. The dictum that one man's meat is another man's poison is eminently true of asthma. Sudden exposure to cold or occupations involving inhalation of vapours e.g., drivers, cooks, bakers, rubber workers may bring on an attack.

While increased susceptibility to allergens and exciting factors may result from exacerbations of asthma occasioned by service factors, such manifestations in service would not automatically be regarded as necessarily amounting to permanent or persistent aggravation. Each case must be considered on its own

merits and the question of persistence of aggravation can only be determined by previous history, nature and length of exposure to service factors, the effect of treatment, subsequent employment and progress of disease. Assessment is difficult in asthma during intermission. However, presence of residual lung signs such as (rhonchi, prolonged expiration) hyperinflated emphysematous lungs, pigeon chest deformity and impaired lung function tests are useful guide to chronicity of the disease.

All asthma cases should be accepted on the basis of aggravation.

6. Blank

7. Bronchiectasis. Bronchiectasis is an acquired disease and less commonly due to congenital disorder such as congenital cystic disease of lungs. Bronchiectasis is generally secondary to suppurative pneumonias, pulmonary TB; diffuse airway obstructive disease like aspergillar bronchopulmonary disease, asthma and chronic bronchitis.

Attributability is conceded if it follows any infective disease of lung which had already been accepted on the basis of attributability.

Aggravation will be appropriate if the disease sets in as sequelae to airway obstructive diseases and in individuals suffering from congenital cystic disease or have served in adverse terrain and climatic zones for a considerable period.

Congenital cystic disease of lungs can be aggravated by exposure to climatic conditions in so much as that this condition may predispose to respiratory infections such as bronchitis. Should the individual suffering from congenital cystic disease has bronchitis, it is likely that cyst will become infected and he will present symptoms of bronchiectasis and lung abscess.

8. Cardiomyopathy. Cardiomyopathies are diseases of heart muscle of unknown origin. It is a distinct entity by itself and excludes the diseases of heart such as IHD, hypertensive heart disease, congenital heart disease and all forms of specific heart muscle diseases. In hypertrophic cardiomyopathy the role of heredity is convincing. Many forms of specific heart muscle disease produce clinical picture indistinguishable from dilated cardiomyopathy e.g. connective tissue disorder, sarcoidosis and alcoholic heart

disease. In contrast amyloidosis and eosinophilic heart disease produce restrictive cardiomyopathy.

Myopathies are generally idiopathic diseases. However, aggravation may be examined if the individual did not get the benefit of immediate attention and sheltered appointment. Alcohol induced cardiomyopathy is rejectable.

9. Cancer. Precise cause of cancer is unknown. There is adequate material both of scientific and statistical nature which brings into light the causative factors like radiation, chemicals, and viral infections.

The recognized causative agents for carcinogenesis are:-

- (a) Viral infection
- (b) Radiation from nuclear sources
- (c) Ultra violet rays
- (d) Chemicals
- (e) Acquired chromosomal abnormalities
- (f) Trauma (chronic irritation leading to dermatological cancers
eg: kangri cancer)

The service related conditions in relation to carcinogenesis are as under:-

(a) **Occupational Hazards:** All ranks working in nuclear powered submarines, doctors and paramedics working with electro-magnetic equipment, personnel working with radars, communication equipment, microwave and also those handling mineral oils such as petrol and diesel are exposed despite stringent safety measures.

(b) **Infection:** As a cause of cancer has been documented in certain malignancies. Though identification of an organism may not be possible due to lack of facility but there is gross evidence clinically to suspect infection.

(c) The question of relationship between a malignant condition and an accepted injury is difficult to establish. The vast majority of traumatic lesions however severe, show no tendency to be followed by cancer either immediately or remotely. However chronic irritation leading to dermatological cancers have been documented (eg: Kangri Cancer),attributability will be conceded depending on the merit of the case.

10. **Malignancies Considered Attributable to Service**

(a) Due to Occupational Hazards:

(i) Any cancer in those personnel working or exposed to radiation source in any forms:

- (aa) Acute leukaemia
- (ab) Chronic lymphatic leukaemia
- (ac) Astrocytoma
- (ad) Skin cancers

(ii) Any cancer in those exposed to chemical especially Petroleum products or other chemicals:-

- (aa) Carcinoma bladder
- (ab) Renal cell carcinoma
- (ac) Carcinoma of Renal Pelvis

(iii) Any cancer in those exposed to coal dust, asbestos, silica & iron

- (aa) Bronchogenic Carcinoma
- (ab) Pleural Mesothelioma

(b) Due to Viral Infection:

- (i) Hepato-cellular carcinoma (HV B&C)
- (ii) Ca nasopharynx (EB virus)
- (iii) Hodgkin's disease (EB virus)
- (iv) Non-Hodgkin's Lymphoma (Viruses)
- (v) Acute Leukaemia (HTLV1)
- (vi) Ca anal canal (**HTLV 1**)
- (vii) Any cancer due to HIV infection (contracted out of blood transfusion/needle stick injury in service)
- (viii) Ca Cervix (HPV)

11. Blank

12. Malignancies Not Attributable and Not Aggravated

Tobacco related cancers in smokers and tobacco users e.g. carcinoma lung, carcinoma oral cavity, carcinoma bladder. Cancers due to congenital chromosomal abnormalities e.g. CML where Ph chromosome identified.

13. **Cataract.** Cataract is primarily due to degenerative changes in the lens causing defective vision.

The causes of cataract are many :-

- (a) Senile cataract
- (b) Metabolic disease - Diabetes mellitus
Hypocalcaemia
Galactosemia
- (c) Trauma - Direct penetrating injury
Eye
Concussion
Ionizing radiation
(Radiographer)
Electric shock and
Lightning
Prolonged exposure to UV
Light (for decades)
- (d) Complicated cataract - Secondary to uveitis
Chroiditis
High myopia
Glaucoma
- (e) Drugs - Steroids, chlorpromazine,
amiodarone
- (f) Complications of atopic dermatitis and psoriasis

It is unaffected by conditions of military service in both its onset and course unless the onset or course is brought about or hastened by an ocular injury or infection during service.

Senile cataract is not usually affected by service.

Attributability is conceded when the cataract is secondary to trauma related to service, infection, post drug therapy and unforeseen complication to surgery.

In diabetic cataract, entitlement depends whether diabetes itself is brought about by service, in such cases aggravation will be conceded.

14. **Cerebrovascular Accident (Stroke)**. Stroke or cerebrovascular accident is a disease of acute onset leading to neurological deficit such as hemiplegia caused by intravascular events. Cerebral infarction following thrombosis and embolism accounts for a large number of cases whereas cerebral hemorrhage is the cause only in a few cases. Atherosclerotic thrombosis is of gradual onset and any permanent neurologic deficit is preceded by TIAs (Transient Ischaemic Attacks).

TIAs result mostly from embolism of thrombus or platelet material from an extra cerebral artery (Internal carotid) and some times due to stenosis of a major artery, altering hemodynamics in the event of change of posture and exertion.

Mural thrombus from the heart in IHD and SBE and ulcerated plaques of atherosclerotic arteries are the principal source of embolism.

Among other causes, physical trauma (heat) and mechanical trauma and arteritis associated with infection like TB, connective tissue disorder (PAN, SLE) can give rise to stroke. Service in HAA can precipitate stroke by virtue of hypercoagulable state.

About half of the strokes caused by cerebral hemorrhage are due to subarachnoid hemorrhage from rupture of a berry aneurysm (Circle of Willis) and less commonly due to arteriovenous malformation. Remaining cases of hemorrhage in cerebral substance are due to rupture of small perforating arteries/arterioles weakened by hypertension or atheromatous degenerations.

The majority cases exhibit greater degree of hemiparesis, dysphasia (if dominant hemisphere is involved), hemianaesthesia and hemianopia. In some cases ataxia, cranial nerve palsy, nystagmus may be the presentation depending on the territory of brain involved.

It will be appropriate to award attributability if there is sufficient evidence of infection underlying the disease and physical and mechanical trauma related to service.

Aggravation can be conceded when atherosclerosis is the underlying cause and exceptional stress and strain of service is in evidence irrespective of his service in peace or field.

It nearly takes 6 months for complete recovery. However, cases showing no sign of improvement up to two years are unlikely to improve further and should be labelled as permanent.

15. **Chronic Bronchitis**: Chronic bronchitis and emphysema are a group of diseases with pure chronic bronchitis at one end and emphysema at the other end of the spectrum. Chronic bronchitis develops in response to long continued action of various types of irritants on bronchial mucosa. The most important of these is cigarette smoke but others include exposure to dust, smoke and fumes in occupational hazards or as a result of environmental pollution. Exposure to dampness, sudden changes in temperature and fog may precipitate an attack. Infection plays a secondary role. In the light of adverse service conditions in difficult terrain and climate, certain occupational hazards (such as drivers, cooks) and environmental pollutions, it will be appropriate to concede aggravation. A major proportion of air flow obstruction in chronic bronchitis is irreversible unlike the air flow obstruction in chronic asthma leading to trapping of air and permanent disability like emphysema.

16. **Corns, Callosities and Warts**. Corns develop due to ingrowths of epidermis after a minor or unrecognized trauma and can be very painful. They are usually present over soles. Callosities develop at the site of continuous friction or pressure and over the feet. It can be due to ill-fitting shoes or long marches.

Warts over soles and other parts of the body are caused by infection by Human Papilloma Virus hence may be considered attributable to service.

In cases with corns & callosities where definite correlation with service is established, aggravation is appropriate.

17. **Cholelithiasis & Cholecystitis**. Gall stone disease is most common biliary disease. It is more common in females. Causes of cholelithiasis are-

(a) Metabolic.

(b) Infection which can cause cholecystitis & cholelithiasis.

(c) Bile stasis- due to pregnancy, after truncal vagotomy, long term parenteral nutrition.

(d) Haemolytic disease.

Cholelithiasis will be considered aggravated if there is evidence of dietic compulsions of service irrespective of tenure in peace or field area. All cases of acalculus cholecystitis being infection contracted in service will be considered attributable.

18. **Cirrhosis of Liver.** Cirrhosis is a chronic parenchymal liver disease as a sequelae to alcohol abuse and virus infection (HBV and HCV). Individuals suffering from hepatitis B infection in association with hepatitis D are more prone to develop progressive liver disease. Attributability is appropriate where antecedent history of infection during service is in evidence.

19. **Conjunctivitis.** Conjunctivitis can be caused by multiple agents-infection, allergy and trauma. Bacteria and virus are by far the commonest causes. Conjunctivitis is generally a self limiting disease except a few like trachoma leading to complications such as deformity of eyelids and corneal opacity. Corneal involvement is frequent in epidemic keratoconjunctivitis due to adenovirus.

Conjunctivitis due to non STD infection and service related trauma such as foreign body, contact lens, artificial eye, if acquired during service should be treated as attributable. However, allergic conjunctivitis triggered by grass, pollen and spores can be regarded as aggravated by service. Assessment of this disability is based on visual acuity which has been affected by the disease.

Trachoma is a disease of remission and exacerbation. The disease in remission may go unnoticed during screening for enrolment.

Exacerbation of the disease may occur due to glare, dust and smoke as chances of reinfection is remote during service. In personnel engaged in trades like cooking, driving, service in active operational area and paint spraying, the disease if detected, should be accepted as aggravated by service.

20. **Chronic Degenerative Diseases of CNS.** Diseases like motor neuron disease, chorea, athetosis, Alzheimer's disease are grouped under this category. A variety of possible causes including viral infection, trauma, exposure to toxins and electric shock have been postulated for motor neuron disease but no factual evidence exists to support any of these in typical cases. In case of chorea the majority falls in Huntington's disease but other causes include post-drug therapy (L Dopa, phenothiazines), viral encephalitis, rheumatic chorea and hyperthyroidism. The exact cause of parkinsonism is not known, however repeated trauma e.g. punch drunk syndrome in boxers, encephalitis (Japanese B Encephalitis, lethargica), certain drugs like reserpine, **phenothiazine** and carbon dioxide poisoning, exposure to certain

toxic agents, can lead to parkinsonism. Alzheimer's disease of presentile onset is insidious and often in middle life. Genetic factors play a predominant role in genesis of presentile Alzheimer's disease.

Attributability will be appropriate if there is antecedent history of infection, trauma and exposure to drug therapy.

The diseases are not normally affected by external circumstances unless it can be established that the individual had the disease for sometime and continued serving. In other words, the course of the disease may be held to be hastened by stress and strain of service in an individual with an established disease by conceding the benefit of reasonable doubt.

21. Colonic Polyps and Diverticulosis. Colonic polyps arise from a mucosal surface and project into the lumen. These can be benign or malignant.

Dietic compulsion such as consumption of tinned food, imbalanced diet and employment in uncongenial climate and terrain (e.g. Field/CIOPS/HAA,) may lead to irregular bowel habits and constipation which may precipitate the symptoms of disease. Aggravation will be appropriate in such cases.

Diverticulosis of intestine results due to herniations of the intestinal mucosa. It is rare in people who eat a diet which contains natural fibre. Imbalanced diet and dietic compulsion of service due to employment in uncongenial climate and terrain (e.g. Field/CIOPS/HAA,) can predispose to complications such as pain and GI bleed. Aggravation due to service factors can be examined in such cases.

22. Congenital Heart Disease. It has been routinely observed that cases of congenital heart diseases like atrial septal defect/Mitral valve prolapse having escaped detection at the time of recruitment become symptomatic and detected very late in service. These will be conceded as neither attributable nor aggravated by military service.

23. Deafness. In the great majority cases of ear disease it is necessary to investigate the condition of hearing and to ascertain whether the deafness if present is due to involvement of sensory neural apparatus or conduction apparatus. The common causes of conductive deafness are wax, Otitis media and Otosclerosis.

Sensory neural deafness is either due to disease of cochlea or auditory fibres in the 8th nerve and its connection in the brain stem. Here both air and bone conduction is affected and is frequently associated with tinnitus.

The common causes are:

(a) Infection.

Viral infection e.g. mumps, influenza.
Cerebrospinal fever.
TB meningitis.
Labrynthitis complicating otitis.
media (commonest cause of SN deafness).
Ramsay Hunt Syndrome (Herpes-Zoster Oticus).

(b) Toxic Drugs and Chemicals

Tobacco, alcohol (rarely).
Quinine, streptomycin, kanamycin, neomycin, vancomycin,
Lead, arsenic.

(c) Degenerative diseases e.g. Multiple sclerosis.

(d) Injury.

(e) Tumours e.g. Acoustic neuroma

(f) Meniere's disease. (affecting cochlear apparatus).

(g) Senile deafness due to involvement of cochlear apparatus

Caisson workers, divers, airmen and mountaineers and persons posted in HAA are liable to develop deafness due to labrynthine injury (hemorrhage, thrombosis or embolism) resulting from sudden compression/decompression and hypercoagulable state.

Medical opinion would hold that nerve deafness could be due to service only when it is as a result of an attributable service injury or outcome of infection contracted during service.

However, those working in close proximity of gun fire (small arms, grenade, arty guns, bomb blast, and tanks) and in constant exposure to blast of loud noises such as working with aero engines, riveters, factory workers run the risk of labrynthine deafness. In these cases intensity of continuity, duration and

distance of sound nuisance should be considered before conceding aggravation.

24. Diseases of Retina.

All retinal diseases are associated with reduction of acuity of vision, contraction of field of vision, colour blindness and sometimes progress to blindness.

Retinal diseases are divided into broad categories as under :

(a) Retinal Perivasculitis.

Exposure to cold, bright light in high altitude, nuclear flash, prolonged exposure to UV light, or systemic infection can adversely affect the course of disease where aggravation will be considered.

(b) Optic Neuropathy. Optic neuritis encompasses morphological variants such as retro bulbar neuritis, papillitis, neuro retinitis and optic atrophy. It is a degenerative disease with multiple sclerosis accounting for majority of cases. However, choroiditis, sinus infection, head injury, penetrating injury eye, certain drugs (ethambutol, chloramphenicol), tobacco, alcohol, atherosclerotic embolism of artery concerned, Cerebral malaria can cause this. Optic neuropathy may be a complication to SLE and temporal arteritis. When optic neuropathy develops due to trauma related to service, infection and drug therapy, attributability is conceded.

(c) Retinal Detachment. Retinal detachment is a degenerative disease. Degeneration is either due to lattice degeneration or myopic degeneration. Trivial trauma can produce retinal detachment in both these conditions. Physical stress of service e.g. organised games, sports activity, training, PT parade, boxing can precipitate an attack. Hence to concede aggravation is appropriate.

(d) Degeneration and Dystrophy of Fundus.

(i) Central Serous Retinopathy. It is common condition characterized by unilateral localized detachment of sensory retina at macula. If florescent angiography shows multiple leaks, the particular condition may be due to tubercular disease. Hence attributability can be conceded. About 80% of Central Serous Retinopathy

undergoes spontaneous recovery and visual acuity is restored within six months.

(ii) Retinal Vascular Diseases Generally associated with Diabetes and Hypertension. Retinal artery occlusion may be due to vegetation from **heart** as in **infective** bacterial endocarditis and thrombus in myocardial infarction. Central retinal vein occlusion is associated with hypertension and hyperviscosity syndrome in leukaemia and polycythaemia vera.

(iii) Retinitis Pigmentosa. It is a generic name for a group of hereditary disorders characterized by progressive loss of photo receptor retinal pigment i.e. rods and cones. Night blindness is the main complaint with loss of acuity of vision. Disability is rejectable.

(iv) Maculopathies. These are seen in myopics and certain toxic maculopathies due to drugs (**chloroquine**, quinine, chlorpromazine).

25. Demyelinating Diseases of CNS.

Demyelinating diseases of CNS encompasses a host of conditions like multiple sclerosis, Guillain-Barre syndrome, Acute demyelinating encephalomyelitis and progressive multifocal encephalopathy and slow virus infection.

Acute demyelinating encephalo myelitis follows weeks after exanthem such as measles, chickenpox or after vaccination. Guillain-Barre syndrome may develop during or after virus infection of upper respiratory tract.

Multiple Sclerosis is a disease in which a host of factors such as environment, genetics and immunology have a role to play. However rise in incidence in countries with temperate climate suggest greater role of environment. Hence individuals serving in terrains and climate akin to temperate zones may develop the disease which can be accepted on the basis of aggravation.

All demyelinating disorders with preceding history of infection, vaccine therapy during service are to be adjudicated as attributable to service.

26. Diabetes Mellitus

This is a metabolic disease characterised by hyperglycemia due to absolute/relative deficiency of insulin and associated with long term complications called microangiopathy (retinopathy, nephropathy and neuropathy) and macroangiopathy.

There are two types of Primary diabetes, Type 1 and Type 2. Type 1 diabetes results from severe and acute destruction of Beta cells of pancreas by autoimmunity brought about by various infections including viruses and other environmental toxins in the background of genetic susceptibility. Type 2 diabetes is not HLA-linked and autoimmune destruction does not play a role.

Secondary diabetes can be due to drugs or due to trauma to pancreas or brain surgery or otherwise. Rarely, it can be due to diseases of pituitary, thyroid and adrenal gland. Diabetes arises in close time relationship to service out of infection, trauma, and post surgery and post drug therapy be considered attributable.

Type 1 Diabetes results from acute beta cell destruction by immunological injury resulting from the interaction of certain acute viral infections and genetic beta cell susceptibility. If such a relationship from clinical presentation is forthcoming, then Type 1 Diabetes mellitus should be made attributable to service. Type 2 diabetes is considered a life style disease. Stress and strain, improper diet non-compliance to therapeutic measures because of service reasons, sedentary life style are the known factors which can precipitate diabetes or cause uncontrolled diabetic state.

Type 2 Diabetes Mellitus will be conceded aggravated if onset occurs while serving in Field, CIOPS, HAA and prolonged afloat service and having been diagnosed as Type 2 diabetes mellitus who are required serve in these areas.

Diabetes secondary to chronic pancreatitis due to alcohol dependence and gestational diabetes should not be considered attributable to service.

27. **DNS**. It is a hereditary disease. If acquired during service due to trauma during a boxing event or an organised game activity, should be treated as attributable.

28. **Disorders of Cardiac Rhythm and Conduction**. These are aberrations in heart rate due to varied pathological and physiological states. These conditions may arise from some organic heart disease like rheumatic heart disease, ischaemic heart disease, hypertension, **infective** endocarditis, myocarditis, vascular disease and drugs. It also occurs as a result of focal sepsis, thyrotoxicosis, and excessive use of tea, coffee, tobacco, alcohol and as a result of flatulent distension of the stomach or intestine. Physical exertion or emotional excitement may predispose to an attack.

Attributability is conceded if arrhythmia and heart blocks develop as sequelae to infections in the heart. Aggravation is awarded based on the primary disease affecting heart in relevance to service profile.

29. **Diseases of Female Reproductive System**

With the induction of females into Armed Forces, a new scenario has emerged as certain diseases specific to reproductive system can be adversely affected by service conditions. At the time of enrolment it is mandatory to ascertain certain information pertaining to reproductive system such as LMP, regularity of periods, clinical examinations and ultrasonography to exclude any pelvic pathology. Certain common diseases of female reproductive system are being discussed here with relevance to service in Armed Forces.

(a) **Disorders of Menstruation**

(i) Amenorrhoea. Amenorrhoea (Absence of menstruation) may be primary or secondary:

(aa) Primary amenorrhoea is either due to non development of genital tract or lesion in hypothalamic-pituitary-ovarian axis. Recommended to be unfit for commissioning in military service.

(ab) Secondary amenorrhoea is commonly caused by pregnancy or lactation. Pathological causes can be lesion in the hypothalamic - pituitary - ovarian - uterine axis. This condition is

neither attributable nor aggravated by military service.

b) Dysfunctional Uterine Bleeding. It is an endogenous disorder and is neither attributable nor aggravated by service.

(c) Pelvic Inflammatory Disease. Pelvic inflammatory disease can be due to endogenous or exogenous infection. If exogenous infection other than STD is proved, attributability is appropriate. Pelvic tuberculosis is attributable to service.

(d) Prolapse Uterus. Prolapse uterus is due to weakness of the uterine supports. Chronic increase in intra-abdominal pressure due to chronic cough, constipation may adversely affect the disease. This condition is neither attributable nor aggravated by service.

(e) Abortion. Majority of abortions take place due to chromosomal abnormalities and are not related to service conditions. The condition is a temporary disability and is neither attributable nor aggravated by service.

(f) Stress Incontinence of Urine. Stress incontinence of urine is involuntary **leaking** of urine on increasing intra abdominal pressure. It is caused by loosening of bladder neck supports. It is neither attributable nor aggravated by service conditions.

(g) Pelvic Endometriosis. This is an endogenous disorder and neither attributable nor aggravated by service.

(h) Fibroid Uterus. This is an endogenous disorder and is neither attributable nor aggravated by service.

(j) Pelvic Malignancies. Carcinoma of endometrium, ovary, vagina, vulva and fallopian tubes may adversely affect the functioning. These are endogenous disorder and are neither attributable nor aggravated by service. However Carcinoma cervix is considered attributable to mil service due to infection acquired in service.

(k) Menopause. Menopausal symptom may be severe and adversely affect the functioning of the individual. This condition is neither attributable nor aggravated by service.

(1) Pregnancy Complications. Any pregnancy complication including ectopic pregnancy, abortions, antepartum hemorrhage, attributability may be considered if there is delay in institution of treatment due to service conditions.

30. Disorders of Immune Dysregulation.

These can be classified as:-

- (a) Arthritides
- (b) Vasculitides
- (c) Systemic Lupus Erythromatosis
- (d) Inflammatory myositis
- (e) Systemic sclerosis

Disease of various other etiologies like infections, metabolic disorders, and degenerative diseases can have presentation in the above classes and need to be excluded. The aetiology of these various diseases of immune dysregulation is not definitely known but involves interplay of genetic (HLA associated) and environmental (foreign antigens) agents which cause an immunological attack against the self (autoimmunity).

(a) Arthritides. This includes Spondylo-arthropathy (seronegative) and Rheumatoid arthritis (Sero-positive). Spondylo-arthropathy have a constellation of diseases like unclassified spondylo-arthropathy, ankylosing spondylitis, reactive arthritis, psoriatic arthritis, Reiter's syndrome and enteropathic arthritis. All these are aggravated by physical stress of service like training, marching and prolonged standing etc.

(b) Vasculitides. This includes a number of diseases involving large, medium and small arteries and veins. Aetiology is due to abnormalities in both humoral and cell mediated immunity except hepatitis B and hepatitis C virus associated vasculitis. Other than these exceptions, aggravation due to service is appropriate as exposure to cold, climatic region and hypoxia of HAA can adversely affect the course of the disease.

(c) Systemic Lupus Erythromatosis. SLE is a disease characterized by multitude of antibodies and multi-system involvement. Aggravated by exposure to ultraviolet light as in HAA and exposure to sun is appropriate in such cases.

(d) **Inflammatory Myositis**. Inflammatory myositis includes dermatomyositis and polymyositis. It is of unknown aetiology but abnormalities of cell mediated immunity and humoral immunity is seen, can be precipitated by exertion. Hence aggravation by service is appropriate.

(e) **Systemic Sclerosis**. Systemic sclerosis has no known etiological agents. It is characterized by increased collagen in skin and viscera. It is aggravated by exposure to severe cold.

31. Diseases Peculiar to Naval Service.

(a) **Pulmonary Barotrauma**: Pulmonary Barotrauma occurs in divers and sub-mariners due to rapid ascent from depth, increase of pressure in lung and counter lung system and also due to lack of sufficient air for breathing as a result of loss of mouth piece and breathing from mask space, mouth piece block due to vomitus and diving with relief-valve open.

Signs and symptoms appear few minutes after coming to surface. Chest pain, breathlessness and haemoptysis and CNS symptoms are the common presentation due to air embolism. Attributability is appropriate in such cases.

(b) **Decompression Sickness**. Decompression sickness is a condition peculiar to flyers, divers and submariners. It is caused by inert gas such as nitrogen, which is a component of air mixture that we intake, goes into solution in large quantities at great pressure and the same separates out from physical solution in tissues in form of bubbles giving rise to symptom of body ache, breathing difficulty and those due to involvement of other systems.

Attributability may be conceded if the same is acquired while on duty.

(c) **Dysbaric Osteonecrosis**. Exposure to pressure substantially greater than normal atmospheric pressure is known to be associated with death of portion of long bones. The disability is detected inadvertently while investigating a case of diving related pathology or even during routine x-ray examination of long bones. The lesions are mainly confined to head, neck and shaft of long bones.

32. Eczema/Dermatitis. Eczema is an inflammatory response of the skin primarily not infectious or contagious. Reaction is due to many agents such as exogenous factors (irritants/contact) or endogenous factors (biological). A sensitive person may develop eczema due to stimuli encountered as a result of military service. These include mechanical stimulus of the skin from friction of clothing and chemical and biological irritants in those handling equipment and in also in those engaged in professional work. The friction may occur during marching, PT, military exercise, thermal irritation, from sweating or over reaction of the secretions of the skin. Exposure to cold appears also to be a precipitating factor in some cases. An ulceration of infection of skin or septic wound may cause sensitization.

Any case of exogenous eczema which begins subsequent to enrolment, the onset of which is accepted as precipitated by service conditions, must be considered as attributable to service and not merely aggravated while endogenous eczemas can be considered as aggravated.

33. Epilepsy. This is a disease which may develop at any age without obvious discoverable cause. The persons who develop epilepsy while serving in forces are commonly adolescents with or without ascertainable family history of disease. The onset of epilepsy does not exclude constitutional idiopathic type of epilepsy but possibility of organic lesion of the brain associated with cerebral trauma, infections (meningitis, cysticercus, encephalitis, TB) cerebral anoxia in relation to service in HAA, cerebral infarction and hemorrhage, and certain metabolic (diabetes) and demyelinating disease should be kept in mind.

The factors which may trigger the seizures are sleep deprivation, emotional stress, physical and mental exhaustion, infection and pyrexia and loud noise. Acceptance is on the basis of attributability if the cause is infection, service related trauma.

Epilepsy can develop after time lag/latent period of 7 years from the exposure to offending agent (Trauma, Infection, TB). This factor should be borne in mind before rejecting epilepsy cases.

Where evidence exists that a person while on active service such as participation in battles, warlike front line

operation, bombing, siege, jungle war-fare training or intensive military training with troops, service in HAA, strenuous operational duties in aid of civil power, LRP on mountains, high altitude flying, prolonged afloat service and deep sea diving, service in sub-marine, entitlement of aggravation will be appropriate if the attack takes place while serving in those areas.

34. Errors of Refraction:

- (a) **Astigmatism** .May very rarely be due to injury or ulceration of the cornea. In the absence of evidence of injury or inflammatory disease of the eye, the condition may be accepted as unaffected by military service.
- (b) **Hypermetropia** .May very rarely be due to injury or disease of the focusing muscles of the eye. In the absence of evidence of injury or disease, the condition may be accepted as unaffected by military service.
- (c) **Myopia** . Myopia, particularly in cases in which rapid changes have occurred, can be aggravated by service in the following conditions:
 - (i) Young myopes up to 25 years of age working at prolonged clerical duties under poor lighting conditions.
 - (ii) High myopes (myopia over 6 D) of all ages, provided the myopia is of progressive nature.
 - (iii) Myopes who have suffered from long debilitating illness due to service, particularly between the age 18 to 25.
 - (iv) Myopes who show choroidal degeneration, which is a frequent accompaniment of high myopia. In such individuals service for a considerable period, or prolonged duty under severe physical strain might have an aggravating effect.
 - (v) Myopia has a natural tendency to progress, but the Worsening of the myope's vision brought about by a detachment of, or haemorrhage into the retina may be precipitated by service conditions, which must be carefully considered in relation to each individual case.

35. Glaucoma.

- (a) **Primary Glaucoma.** May be either acute or chronic. Its onset is generally speaking unaffected by service conditions; but exceptionally, an acute attack may be brought on by worry, fatigue, or illness and, if any of these were considered to be the result of service, aggravation might have to be conceded.

The onset may be insidious and it may reveal its presence for the first time as an acutely painful eye, but in the absence of evidence of undue mental or physical stress occasioned by war service, it can not be considered that this disease is attributable to or has been aggravated by service factors.

- (b) **Secondary Glaucoma.** This may be due to a service trauma and would be attributable. It may be caused by iritis and intra-ocular haemorrhage, and entitlement would, therefore, have to be considered in relation to the underlying cause. It may also be the result of an intra-ocular tumour.

In general terms it may be said that, in the great majority of cases there is a disturbance of the intra-ocular circulation to which is frequently added an obstruction to the circulation of the intra-ocular fluids. The factor common to all cases is the increase of intra-ocular pressure. In such cases, therefore, the primary condition which is responsible, for these changes or sequelae must be considered in relation to entitlement and not the glaucoma per se.

36. Fibrosis of Lungs.

Fibrosis of the lung is a condition in which the amount of lung fibrous tissue is increased to varying extent in accordance with the severity of the disease.

It is caused by:

- (a) **Tuberculosis** - This is the commonest cause. Pneumoconiosis, as in miners etc.

(b) Silicosis in builders and in professionals engaged in quarries.

(c) Irritant gases (chlorine, bromine etc.) Lung irritants in chemical warfare.

(d) **Pneumonia** - If the pneumonia is accompanied by complications, or in bronchopneumonia which may arise in children as a complication of acute infective disease (such as measles, whooping cough etc).

(e) Local inflammatory or destructive lesions (abscess, Parasitic cysts etc).

(f) Sometimes follows collapse of the lung.

(g) There may be some fibrosis of the lung in congestive heart failure.

(h) Extrinsic allergic alveolitis due to exposure to organic dust.

The condition could be aggravated by inflammatory diseases of the lung; by certain occupations such as coal miners, silica workers etc. The disease is a chronic condition developing over a period of time.

Irrespective of the underlying cause, physical exertion by PT, parade, route marches, hill climbing and equivalent activity can aggravate the disease.

37. Fistula in Ano.

It is a track lined by granulation tissue which connects anal canal or rectum with skin around anus. It usually results from anorectal abscess which burst spontaneously or is opened surgically. It continues to discharge pus off & on. It may also occur following trauma, anal cancer, Crohn's disease and certain specific infections like tuberculosis.

It will be considered attributable when it is due to infection or trauma contracted in service.

38. Goitre. Goitres are swellings of thyroid which can be broadly divided into simple goitre and toxic goitre.

Simple goitre can be a diffuse or multinodular enlargement of the thyroid. It is likely that sub optimal dietary iodine intake associated with dietary compulsions and employment in localities peculiar to Armed Forces may lead to development of goitre which may present either in euthyroid and hypothyroid state. Sometimes hypothyroid state may develop as an after math to ablation of gland to over generous surgery or irradiation and also drug therapy like PAS, lithium carbonate and phenylbutazone. Attributability can be conceded in simple and multi nodular goitre due to iodine deficiency in endemic areas and in hypothyroidism following therapeutic trials.

Toxic goitres are commonly seen in Grave's disease and less commonly in multinodular goitre, sub-acute Dequervain's thyroiditis and adenoma thyroid showing features of toxicity. At times hyperthyroid state may follow therapeutic and diagnostic trial with iodine compounds like anti-arrhythmic drugs e.g. amiodarone, radiographic contrast media and during the course of iodine prophylaxis programme. Grave's disease is an immunologically mediated disease and its onset or course can be aggravated by service conditions such as worry, stress and strain, shock which can precipitate the toxic symptoms. It will be appropriate to concede attributability in hyperthyroidism associated with multinodular goitre and sub-acute thyroiditis and also in post therapeutic and diagnostic trials of iodine and its compounds.

39. Gout. Gout is generally a genetic disorder but may be secondary to conditions like leukaemia, polycythemia vera and psoriasis. The disease can be aggravated by exercise, alcohol, starvation, diets rich in nucleic acid like animal protein. In the presence of dietic compulsions and these exciting factors common to armed forces, aggravation due to service can be examined.

40. Hepatitis. Hepatitis is caused by hepatitis viruses, non-viral agents like amoeba, *Toxoplasma gondii*, Leptospiral and rarely by drugs. Virus infection constitutes the single largest group accounting for nearly 99% of all hepatitis. The viruses responsible are Hepatitis A, Hepatitis B, Hepatitis C, Hepatitis D and Hepatitis E. The common drugs and chemicals injurious to liver are ethanol, phenacetin, acetaminophen, isoniazid, rifampicin, cemetidine and halothane.

The spread of disease in hepatitis associated with HAV and HEV is feco-oral, whereas the spread of hepatitis due to HV, HCV, and HDV are mostly parenteral though close personal contact is necessary for transmission as these viruses tend to be secreted in body fluids like saliva, urine, semen and vaginal secretions.

Chronic hepatitis is a chronic parenchymal liver disease caused by alcohol, hepatitis B and C virus infection, drugs e.g. methotrexate and auto-immune hepatitis. Diagnosis of chronic hepatitis is made when the liver disease has been present on clinical grounds at least for six months.

Three principal histological variants some times reflected clinically are persistent hepatitis, aggressive hepatitis and lobular hepatitis. Cirrhosis often develops in cases of aggressive hepatitis.

Hepatic amoebiasis is common in the tropics and subjects of Armed Forces are no exception to this. The infection most commonly affects the right lobe of liver. The disease runs a short protracted course and is cured with therapy.

Attributability is conceded in infections and in all cases of viral hepatitis acquired in service but those acquired due to AIDS contracted sexually and drug abuse are rejectable. Attributability is also conceded in cases where hepatitis is a sequelae to drug therapy for treatment of diseases.

High transaminase level (6 times) and presence of HBsAg are diagnostic of HBV hepatitis. When the test is negative for HBsAg, HBV infection is unlikely but not ruled out as antigenemia is transient and the timing of diagnostic test is not perfect. However, antigenemia can last up to 05 months. The failure to detect HBsAg should not exclude the possibilities of infection with HBC, HBD, HBE, HBA viruses as there is no diagnostic back up available to detect these in peripheral service hospitals. In such cases attributability will be appropriate.

41. Hernia.

A Hernia is a protrusion of a viscus or part of a viscus through an abnormal opening in the walls of a body cavity. Common varieties of abdominal wall hernias are, inguinal, femoral, umbilical, para umbilical, epigastric & incisional.

In young people, there may be a preformed sac that predisposes to indirect inguinal hernias. Many young adults discover hernia after strenuous physical activity. Connective tissue abnormality may be involved in adult onset hernias. Abnormalities in ultrastructure and physicochemical properties of collagen suggest that hernia is one manifestation of a generalised abnormality in collagen metabolism.

Incisional hernias are to be considered attributable if due to surgery in service hospitals.

42. Haemorrhoids: Haemorrhoids are dilated veins occurring in anal canal. Straining, accompanying constipation predisposes to haemorrhoids. Hence in service conditions where diet may be deficient in roughage as in Field/CIOPS/HAA, haemorrhoids can be considered to be aggravated by service conditions. Diarrhoea of enteritis, colitis or dysentery aggravates latent haemorrhoids. In such cases aggravation may be considered.

43. Hypertension. The first consideration should be to determine whether the hypertension is primary or secondary. If secondary, entitlement considerations should be directed to the underlying disease process (e.g. Nephritis), and it is unnecessary to notify hypertension separately.

As in the case of atherosclerosis, entitlement of attributability is never appropriate, but where disablement for essential hypertension appears to have arisen or become worse in service, the question whether service compulsions have caused aggravation must be considered. However, in certain cases the disease has been reported after long and frequent spells of service in field/HAA/active operational area. Such cases can be explained by variable response exhibited by different individuals to stressful situations. Primary hypertension will be considered aggravated if it occurs while serving in Field areas, HAA, CIOPS areas or prolonged afloat service.

44. Inflammatory Bowel Disease. Opinion has been divided over the origin of inflammatory bowel disease. Infective agents such as RNA viruses, *Mycobacterium kansasii*, *Pseudomonas*, Anaerobes, *Y enterocolitica* and some immunological aberrations and many psychosomatic, dietary, vascular, traumatic, hormonal and other mechanisms have been implicated in genesis of these diseases.

The diseases falling in the group is ulcerative colitis and Crohn's disease and these are characterized by unpredictable exacerbations and remissions. Relapse is often associated with emotional stress, inter-current infection or use of antibiotics. Stress and strain of service will materially influence the course of disease and aggravation can be conceded.

The complications of these diseases are fissure in ano, stricture rectum, and fistula. The extra intestinal complications are ankylosing spondylitis, uveitis, cirrhosis and amyloidosis. While assessing the disease, the assessment for the complication should be kept in mind.

45. Irritable Bowel Syndrome. It is a disease of disturbed mobility of colon with uncertain aetiology. Patients with psychological disturbances in form of domestic worries and anxiety may precipitate the attack. Stress and strain of service may aggravate the disease.

46. Injuries to Oral Cavity. Injuries to oral cavity and its contents tongue, nerves can be caused by way of trauma during service and more commonly due to cancer involving floor of mouth and less commonly due to benign pathology of dentures and floor of the mouth.

Attributability can be examined by judging the etiological factors in relevance to service.

47. Ischaemic Heart Disease (IHD). IHD is a spectrum of clinical disorders which includes asymptomatic IHD, chronic stable angina, unstable angina, acute myocardial infarction and sudden cardiac death (SCD) occurring as a result of the process of atherosclerosis. Plaque fissuring and rupture is followed by deposition of thrombus on the atheromatous plaque and a variable degree of occlusion of the coronary artery. A total occlusion results in myocardial infarction in the territory of the artery occluded.

Prolonged stress and strain hastens atherosclerosis by triggering of neurohormonal mechanism and autonomic storms. It is now well established that autonomic nervous system disturbances precipitated by emotions, stress and strain, through the agency of catecholamines affect the lipid response, blood pressure, increased platelet aggregation, heart rate and produce ECG abnormality and arrhythmias.

The service in field and high altitude areas apart from physical hardship imposes considerable mental stress of

solitude and separation from family leaving the individual tense and anxious as quite often separation entails running of separate establishment, financial crisis, disturbance of child education and lack of security for family. Apart from this, compulsory group living restricts his freedom of activity. These factors jointly and severally can become a chronic source of mental stress and strain precipitating an attack of IHD. IHD arising in while serving in Field area/HAA/CI Ops area or during OPS in an indl who was previously in SHAPE-I will be considered as attributable to mil service.

Entitlement in Ischemic heart disease will be decided as follows:-

(a) Attributability will be conceded where: A myocardial infarction arises during service in close time relationship to a service compulsion involving severe trauma or exceptional mental, emotional or physical strain, provided that the interval between the incident and the development of symptoms is approximately 24 to 48 hours. IHD arising in while serving in Field area/HAA/CI Ops area or during OPS in an indl who was previously in SHAPE-I will be considered as attributable to mil service.

Attributability will also be conceded when the underlying disease is either embolus or thrombus arising out of trauma in case of boxers and surgery, infectious diseases. E.g. Infective endocarditis, exposure to HAA, extreme heat.

(b) Aggravation will be conceded in cases in which there is evidence of:-

IHD occurring in a setting of hypertension, diabetes and vasculitis, entitlement can be judged on its own merits and only aggravation will be conceded in these cases. Also aggravation may be conceded in persons having been diagnosed as IHD are required to perform duties in high altitude areas, field areas, counter insurgency areas, ships and submarines due to service compulsions.

There would be cases where neither immediate nor prolonged exceptional stress and strain of service is evident. In such cases the disease may be assumed to be the result of biological factors, heredity and way of life such as indulging in risk factors e.g. smoking.

Neither attributability nor aggravation can be conceded in such cases.

48. Keratitis. Keratitis is an inflammation of cornea with or without ulceration and on healing opacity or opacities may be left which may interfere with vision.

It is essentially an infection by various micro organism excited by a number of causes e.g. injury, foreign body exposure (facial nerve palsy), conjunctivitis.

The viruses causing keratitis are herpes and Varicella virus. Certain morphological variants of viral keratitis are disciform keratitis, nummular keratitis and punctate keratitis.

Bacteria such as staphylococcus and pseudomonas can cause keratitis. Few morphological variants such as interstitial keratitis, phlyctinular keratitis, marginal keratitis are due to hypersensitivity reaction to bacterial toxins (TB, Staphylococcus).

Keratitis may be associated with fungal infection and collagen disorders.

Keratitis is a self limiting disease if treated adequately. If left with a residual opacity centrally it may obstruct vision.

Attributability is appropriate when there is evidence of infection and trauma in relevance to service.

49. Knee Injury. This constitutes by far the largest group of bony joint injury and consists of following elements singly or in combination:

- (a) Traumatic synovitis.
- (b) Medial and lateral collateral ligament injury.
- (c) Anterior and posterior cruciate ligament tear.
- (d) Meniscus tear.
- (e) Fatpad impingement.
- (f) Cartilage tear.

Internal derangement of knee (IDK) or haemarthrosis should be considered as a provisional diagnosis and effort should be made to reach a final diagnosis by corroborating clinical evidence with investigations such as x-Ray and CT scan arthroscopy.

Acceptance is generally on the basis of aggravation unless preceding history of trauma on duty makes it attributable.

50. Laryngo-Tracheal Injury. Laryngo-tracheal injury is a common injury seen in Armed Forces. This can be due to MT accident, injury due to boxing and wrestling, bullet injury, basket ball game and also due to diving into a swimming pool.

Vocal cord paralysis is a common outcome of such injury. Vocal cord palsy can also be due to viral laryngitis, complication of thyroid surgery, neck surgery in malignancy. Irradiation of neck may also give rise to vocal cord palsy.

Sometimes tracheal stenosis occurs in tracheal injury, burns, post tracheostomy and bullet injury.

Attributability and aggravation can be conceded depending on merit of each case.

51. Low backache. Low backache is a clinical entity which is characterised by pain in the lower back which may be associated with sciatica and neurological deficit. The causes of low backache are:

- (a) Musculofascial strain
- (b) Lumbar spondylosis
- (c) Facet joint arthropathy
- (d) Prolapsed inter vertebral disc
- (e) Sacroilitis
- (f) Ankylosing Spondylitis
- (g) Spondylolisthesis
- (h) Trauma

Post traumatic low backache will be considered attributable. Aggravation due to stress & strain of service should be conceded in other cases.

52. Leprosy. Leprosy is caused by *Mycobacterium leprae* and occurs in two main forms, tuberculoid and lepromatous. It is characterized by extreme chronicity. Although skin to skin contact with infectious cases may play a role in

transmission, there are other modes of transmission also, viz recovery of large number of lepra bacilli from nasal mucosa of reservoir of infection namely lepromatous leprosy, has led to possibility of droplet infection through nose blows, sneezing, coughing etc by lepromatous cases. Also the lepromatous ulcers in the skin discharge a large number of bacilli.

The incubation period is not definitely known and various periods have been given by different authorities. There is a long interval between the exposure to infection and the appearance of definite recognizable symptoms of the disease. However, the accumulated evidence indicates that the incubation period is usually not less than 2 years in an adult but this would not debar an individual showing manifestation of disability between 1-2 years of service being considered for entitlement provided clear evidence of contact is established and as further explained in clause(a) below; "Entitlement".

Cases in which the bacilli can be demonstrated can only be considered as infectious. The bacteriologically positive cases are generally but not always cases of lepromatous type. Lately, some laboratory evidence has been produced that even neural cases are infectious but this view has not as yet been universally accepted.

Entitlement

(a) Attributability. Attributability should be accepted in respect of any individual contracting leprosy after being in service for two years. Cases diagnosed within the year of enrolment cannot be considered as attributable to service. Cases where manifestation of the disease occurs between 1-2 years of service will be decided on their own merits, provided clear evidence of attributability for service reasons is produced. If there is evidence to show that the individual had a prolonged and intimate contact arising out of service with an infectious case, attributability shall have to be conceded.

53. Lymphadenitis Neck

The disease is an inflammation of the lymphatic tissue and lymph glands. There are three possible causes:

- (a) Tuberculosis. (Commonest cause) Usually occurs in children and young adults in unhygienic surrounding. It is a slow process. The tuberculous infection is usually superimposed on already unhealthy tissues. The onset of this form of the disease could be precipitated and its course hastened by stress and strain and by poor hygienic conditions.
- (b) Due to Septic Absorption : From bad teeth, adenoids, septic conditions of the scalp etc. Not affected by service except in cases where it resulted from such conditions as an infection of the scalp due to a service injury etc.
- (c) Syphilitic. Very rare in the neck. Not affected by service.

54. Mental & Behavioural (Psychiatric) Disorders.

Psychiatric illness results from a complex interplay of endogenous (genetic/biological) and exogenous (environmental, psychosocial as well as physical) factors. This is true for the entire spectrum of psychiatric disorders (Psychosis & Neurosis) including substance abuse disorders. The relative contribution of each, of course, varies from one diagnostic category to another and from case to case.

The concept of attributability or aggravation due to the stress and strain of military service can be, therefore, evaluated independent of the diagnosis and will be determined by the specific circumstances of each case.

- (a) Attributability will be conceded where the psychiatric disorder occurs when the individual is serving in or involved in:-
 - (i) Combat area including counterinsurgency operational area
 - (ii) HAA service.
 - (iii) Deployment at extremely isolated posts
 - (iv) Diving or submarine accidents, lost at sea.
 - (v) Service on sea.
 - (vi) MT accidents involving loss of life or Flying accidents (both as flier and passenger) in a service aircraft or aircraft accident involving loss of life in the station.
 - (vii) Catastrophic disasters particularly while aiding civil authorities like earthquake, cyclone,

tsunami, fires, volcanic eruptions (where one has to handle work in proximity of dead or decomposing bodies).

(b) Attributability will also be conceded when the psychiatric disorder arises within one year of serious/multiple injuries (e.g. amputation of upper/lower limb, paraplegia, quadriplegia, severe head injury resulting in hemiplegia of gross neurocognitive deficit which are themselves considered attributable to military service. This includes Post Traumatic Stress Disorder (PTSD).

(c) Aggravation will be considered in Psychiatric disorders arising within 3 months of denial of leave due to exigencies of service in the face of:

(i) Death of parent when the individual is the only Child/son.

(ii) Death of spouse or children.

(iii) Heinous crimes (e.g. murder, rape or dacoity) against members of the immediate family.

(iv) Reprisals or the threat of reprisals against members of the immediate family by militants/terrorists owing to the fact of the individual being a member of the Armed Forces.

(v) Natural disasters such as cyclones/earthquakes involving the safety of the immediate family.

(vi) Marriage of children or sister when the individual is the only brother thereof and specially if their father is deceased.

(d) Aggravation will also be conceded when after being diagnosed as a patient of psychiatric disorder with specific restrictions of employability the individual serves in such service environment which worsened his disease because of the stress and strain involved like service in combat area including counterinsurgency operations, HAA, service on board ships, flying duties.

(e) Attributability may be granted to any psychiatric disorder occurring in recruits and results in invalidment from service only when clearly identifiable severe stressors including sexual abuse or physical abuse are present as causative factor/factors for the illness.

55. Oesophageal Stricture. The common causes are drugs, post-endoscopy sclerotherapy and accidental ingestion of scleroagents.

Reflex oesophagitis mostly results from hiatus hernia which is a congenital disease missed commonly during enrolment. There is a general tendency for oesophagitis when the individual is subjected to military training and stress and strain of service.

Aggravation due to service is considered in all cases except those having intent to commit suicide with corroding agent.

56. Osteo-arthritis. Osteo-arthritis is a degenerative joint disease, represents the final common pathway of injury to the articular cartilage. Osteoarthritis can be primary or secondary. The designation of primary or idiopathic osteoarthritis is made when no identifiable predisposing condition could be identified. Osteoarthritis is considered secondary when an underlying cause such as trauma, old intra-articular fracture, ligament injury, or previous deformity, septic arthritis, rheumatoid arthritis, a vascular necrosis. The weight bearing joints are more commonly affected such as Knee, Hip, and Spine.

The spectrum of diseases included in this category are:

- (a) Lumbar spondylosis
- (b) Cervical spondylosis
- (c) Osteoarthritis hip, knee, ankle

Rigours of training and regimental duties and physical activities (Long marching, sentry duty, patrolling, Para jumping active operational activity active operational duties) can overtly/covertly cause continuous trauma to major weight bearing joints.

Uncongenial climate (cold, damp) and hilly terrain can adversely affect the course of the disease. Even when there is no evidence of definite injury, stress or strain associated with duty cannot be excluded. The disease is generally accepted on the basis of aggravation. However the fact that many young soldiers develop the disorder prematurely makes a strong case for attributability in the light of repeated minor trauma. Hence attributability can be considered in those cases where such evidence exists.

57. Otitis Media. Otitis media can be classified into acute and chronic, based on extent of inflammatory reaction and the

presence or absence of suppuration. It should be noted that an initial non-suppurative condition may proceed to suppurative one and chronicity if neglected or inadequately treated. The common predisposing factors are upper respiratory tract infection, infection from postnasal packs in the treatment of epistaxis and rarely as a manifestation of allergy.

Chronic otitis media may be:

- (a) **Active**: When there is pus discharge
- (b) **Quiescent**: With intermittent pus discharge for a period less than 6 months.
- (c) **Inactive**: Cessation of discharge for six months without resumption. It may reactivate by reinfection.
- (d) **Healed**: Total extinction of disease and healing of perforated tympanic membrane.

Chronic suppuration in attic and antrum associated with perforation (attic) and posterior marginal perforation and complications like cholesteatoma and polyp are ominous signs and carries a risk of bone destruction, recurrence after surgery.

If chronic suppurative otitis media originates during service it should be accepted as attributable to service. When diagnosed comparatively early in service there may be evidence of cholesteatoma, polypi and granulation, which would show beyond reasonable doubt that the condition existed before service. This, however, would not necessarily be the case when the disease is discovered for the first time after long service and in the absence of any pre-service ear trouble. The importance of a detailed study history and findings in the member's original service documents cannot be over-emphasised. However, a history of a single isolated attack of acute otitis media in childhood cannot, in the absence of any intervening history of aural disease, be held to be the commencement of an injurious process which only gave rise to symptoms in service many years later.

The pre-existing disease can be aggravated by such conditions as exposure to adverse climatic conditions such as damp or cold, debilitating disease, exposure to gun fire or bomb bursts and swimming in infected waters.

58. Otosclerosis. Otosclerosis is hereditary progressive form of conductive or middle ear deafness but it may be associated with an added perceptive or nerve deafness due to involvement of the nervous elements of the cochlea, particularly in the later stages of the disease. It is now widely held that, although other aural conditions may co-exist with otosclerosis, the only conditions which have an adverse effect on the disease itself are prolonged serious or debilitating conditions, serious injury involving fractures of major bones, or pregnancy, when deterioration occurs in close time relationship to such events.

From the entitlement point of view, it is important to establish a firm diagnosis, i.e. that the condition present is otosclerosis, and not another form of conductive deafness e.g. otitis media; and that any disablement present is due entirely to otosclerosis, and not partly to an additional aural condition which may or may not be related to service.

59. Pancreatitis. Inflammation of Pancreas results due to chronic alcoholism, cholelithiasis, viral infections e.g. mumps, post surgery sequelae, post (ERCP) and also due to certain drugs.

Attributability can be considered in those cases with preceding history of surgery, drug therapy, (ERCP) and concurrent history of mumps.

Alcoholic pancreatitis is to be considered neither attributable nor aggravated due to service. Gall Stone pancreatitis should be considered aggravated if dietic compulsions due to service conditions exist.

60. Paraplegia. Paraplegia due to spinal cord compression is one of the commonest neurological emergencies in the Armed Forces. The principal cause of spinal cord injury is trauma to the spine, a hazard so common in perilous service conditions of Armed Forces. Apart from this, prolapsed inter-vertebral disc associated with lumbar spondylosis, tuberculosis, transverse myelitis, Gullian Barre syndrome can give rise to the disability. Prolonged and intensive physical activity of service during training and active operation hastens degenerative change in inter-vertebral disc which may progress to cord compression. In such cases aggravation due to service will be appropriate.

Attributability should be conceded if the cause is infection or injury during duty.

61. Peptic Ulcer. Peptic ulcer can occur at lower oesophagus, stomach, duodenum and an anastomotic stromal ulcer in post gastrojejunostomy. Although some constitutional pre-disposition to ulcer exists, infection with *Helicobacter pylori* accounts for majority of duodenal ulcer and gastric ulcer. Service in HAA/active operational areas and dietetic compulsions pre-dispose to peptic ulcer increasing the risk of complication and reducing the response to therapy. NSAIDS are held responsible for small proportion of cases of peptic ulcer.

When an ulcer develops under service conditions and there is no evidence that injurious process commenced prior to entry in service the disability is accepted as attributable to service in case the onset is in Field area/CI Ops area/HAA or during Ops. Aggravation will be conceded if the onset is in a peace area.

62. Peripheral Neuropathy. The cause of peripheral neuropathy may be due to infection (e.g. Gullian Barre syndrome, leprosy, typhoid), connective tissue diseases (PAN, SLE, rheumatoid arthritis), exposure to drugs. (amiodarone, vincristine, INH, phenytoin), metabolic (diabetes, hypothyroidism) and hepatic failure. Attributability and aggravation can be offered judging the merit of each case.

63. Peripheral Vascular Diseases.

(a) Peripheral Arterial Occlusive Disease (PAOD). Clinical features of chronic limb ischemia due to PAOD include intermittent claudication, rest pain, ischemic ulcers or gangrene. Smoking is the single most important risk factor for PAOD, others being hypertension, diabetes, hyperlipidemia, IHD and lack of exercise. Aetiology in the older age group is mainly due to atherosclerosis of the blood vessels. Diabetic micro and macro angiopathy potentiates atherosclerotic involvement. Buerger's Disease (Thrombo Angitis Obliterans) occurs in the young male smoker, involving the small and medium sized vessels of the extremities. Takayasu's Aortoarteritis and Giant Cell Arteritis involve the aorta and its major branches. PAOD is not attributable. Aggravation can be considered if the disease has deteriorated on account of adverse/uncongenial service conditions in field/HAA/CIOPS or afloat services.

(b) Acute limb ischemia. This can occur due to arterial thrombosis or embolism. Arterial thrombosis occurring during HAA tenures is attributable.

(c) Vasculitis. Many inflammatory and vasospastic disorders present with ischemia. These diseases have a systemic nature and include Raynaud's phenomenon due to connective tissue disorders (CTD), and the vasculitides. Majority of the vasculitis have an immunological basis as the underlying cause. Polyarteritis nodosa (PAN) can be associated with viral infections like Hepatitis A & B and cytomegalovirus infection. Hypersensitivity vasculitis can occur due to certain drugs and infections. In such conditions attributability may be considered. Cases of Raynaud's disease and vascular disorders associated with physical injuries like cold and radiation can be conceded attributability if there is evidence of exposure to such agents in close time relationship with onset of diseases.

(d) Arterial aneurysms. These can be true or false aneurysms. Aortic, peripheral and visceral arterial aneurysmal disease is usually degenerative in etiology and not attributable. Other causes of aneurysms are collagen disorders, dissections, infective and post traumatic. Atherosclerosis and hypertension are important risk factors. Post-traumatic aneurysms are attributable.

(e) Deep Vein Thrombosis (DVT). DVT is a result of hypercoagulable state, which may be congenital (thrombophilia) or acquired. Congenital causes include Protein-C & Protein-S deficiency, antithrombin deficiency, Factor V Leiden, dysfibrinogenaemias and homocysteinemia and are not attributable. Acquired causes of DVT include prolonged surgery, trauma, immobilisation, malignancy, antiphospholipid syndrome, nephrotic syndrome, sepsis, chronic inflammatory conditions, diabetes and hyperviscosity syndromes. DVT following prolonged surgery, trauma, sepsis or prolonged immobilisation in a hospitalised patient is attributable to service.

(f) Chronic Venous Insufficiency (CVI) & Varicose veins. CVI is a result of sustained ambulatory venous hypertension due to valvular incompetence, venous out flow obstruction or calf muscle pump failure. Features of CVI include varicose veins, leg oedema, eczema, lipodermatosclerosis and venous ulcers. Prolonged standing, injury and infection vitiate the condition, hence merit aggravation if due to service

conditions. Post thrombotic CVI occurring due to service conditions is attributable. Primary varicose veins are not attributable.

(g) Miscellaneous Conditions.

(i) Thoracic outlet syndrome (TOS). Vascular complications occur in 5% of cases of TOS, usually due to compression from a cervical rib or band, resulting in subclavian artery aneurysm, thrombosis or distal embolization in upper limbs, Condition is not attributable.

(ii) Vascular malformation. These are congenital and can be high flow lesions (arterio-venous malformations) or low flow lesions (capillary, venous or lymphatico venous malformations). Not attributable.

(iii) Arterio-venous fistulas . These usually occur as a result of trauma and are attributable if occur due to service conditions.

(iv) Carotid Body Tumour. This tumour is a paraganglioma/chemodectoma, arising from there.

(v) Carotid body at the carotid bifurcation. Not attributable.

(h) Extra-cranial carotid artery disease. Atherosclerotic carotid artery stenosis involves the carotid bifurcation, resulting in decreased cerebral circulation, transient ischaemic attacks or stroke. Not attributable.

64. Pneumonia. Pneumonia is an acute infection of lung usually caused by bacteria and less commonly virus and fungus in predisposed and immuno-compromised individual.

Precipitating or pre-disposing causes are exposure, over fatigue, over exertion, chill, debilitating conditions and diseases, alcoholic excess etc. It may be a terminal disease in the aged. The incubation period is from one to seven days. If a man develops pneumonia while in military service, it is to be presumed that predisposing factors like exposure, chill, over fatigue etc were encountered by reason of military service unless there is evidence that the man was on other than military duty prior to contraction of the infection or that he suffered from pre-disposing causes by reason of his own fault.

For example, immuno-compromised individuals suffering from AIDS and diabetes, the pneumonia arising out of this may not be acceptable unless the primary diseases have similar

basis of acceptance. Nosocomial pneumonias due to steroid therapy, post operative nasogastric intubation, endotracheal intubation, tracheostomy, infected ventilators, nebulizers, intracath, attributability is conceded.

65. Pulmonary Eosinophilia. This is a clinicopathological entity commonly due to parasitic infection (helminth, filaria), bacterial infection, fungal infection (aspergillar bronchopulmonary disease) and at times due to drugs (NFT, aspirin, busalfan, chlorpropamide).

In tropical countries our troops are being perinially exposed to uncongenial environment. Attributability to service can be considered in the light of supportive x-ray and lab findings.

66. Prolapse Rectum.

In complete prolapse of rectum all layers of rectal wall protrude downward through anus. It is more than 4cms in length. Post Traumatic prolapse of rectum will be considered attributable to service. Many patients have a history of intractable constipation/ chronic diarrhoea.

Aggravation due to dietic compulsions of service will be considered in these cases due to tenure in field/CIOPS/HAA and afloat service.

67. Psoriasis.

Psoriasis is a genetically determined disease. A family history is obtained in about 30 per cent of cases. Onset may be spontaneous or it may be precipitated by infections, especially streptococcal infections. Local trauma may determine the site and occasionally it appears for the first time at the site of a healing wound. Mental and emotional stress are generally regarded as not causative but may give rise to exacerbations. The disease is frequently associated with a type of arthritis very similar to rheumatoid arthritis except that the distal interphalangeal joints are frequently involved and the agglutination test for rheumatoid arthritis is almost invariably negative. Rarely ultraviolet radiation may worsen psoriasis. Aggravation due to stress and strain of service and precipitating infections except the sexually transmitted one (especially in cases of Reiter's disease) can be considered.

68. Renal Disorders.

It has long been appreciated that specific lesions of urinary tract frequently give rise to a constitutional array of

clinical signs and symptoms and laboratory findings which when taken together constitute syndromes that effectively narrow the range of causal entities into broad subgroups outlining the exact diagnosis. These syndromes serve as a useful framework upon which the orderly system of nephrology is evolved.

69. Acute Renal Failure.

It is a rapid deterioration in renal function sufficient to result in accumulation of nitrogenous wastes in the body. The common causes are:

(a) Acute Glomerulonephritis :

- Due to post streptococcal infection.
- Occult visceral sepsis
- Infective endocarditis
- SLE, vasculitis

(b) Acute Tubulo-interstitial Nephritis :

- Acute pyelonephritis, chronic pyelonephritis
- Chronic UTI
- Acute tubular necrosis
- Arteriolar nephrosclerosis
- Analgesic nephropathies
- Nephrotoxins e.g. antibiotics and radiography contrast media
- Transplant rejection
- Multiple myeloma, leukaemia

(c) Acute Tubular Necrosis:

- Hypovolemia due to burns, hemorrhage
- Vascular pooling in anaphylaxis, Sepsis and drugs
- Decreased cardiac output in CVS failure.
- Haemolysis in malaria
- Rhabdo-myolysis in trauma and heat stroke
- Infection e.g. Diarrhoea, Septic abortion, peritonitis, pancreatitis
- Drugs - contrast media, anaesthetic agent

(d) Calculus:

Sixty to eighty percent of adults suffering from acute glomerulonephritis recover over a period of 2 to 4 years. Twenty to forty percent of the cases have

residual hypertension and asymptomatic urinary abnormalities.

Majority of Acute renal failure cases recover. Only ten percent of cases progress to chronic renal failure.

If Acute renal failure follows trauma on duty, infection hypovolemia, drug therapy, attributability can be conceded. When associated with multi-system disease, aggravation due to service can be examined based on his service profile.

70. Chronic Renal Failure.

Chronic renal failure is a syndrome resulting from progressive and irreversible destruction of nephrons. This syndrome is considered when azotaemia lasts for more than 3 months.

The causes are:

- (a) Chronic glomerulonephritis i.e. end stage of glomerular diseases with infection central to pathogenesis e.g. post streptococcal GN, MPGN, Focal sclerosing glomerulonephritis.
- (b) Chronic pyelonephritis
- (c) Calculus
- (d) Hypertension
- (e) Diabetes mellitus.

Recovery is poor as the disease is progressive irrespective of the cause and the course is unpredictable.

Attributability/Aggravation can be awarded taking into account the cause and also service profile which would have adversely affected the course of disease.

71. Rapidly Progressive Renal Failure.

A separate entity which invariably progresses to chronic renal failure within a period of one to two years if course is not halted by therapy.

The causes are :

(a) Acute and sub acute infections e.g. post streptococcal glomerulonephritis.

(b) Multi system disease eg SLE, Vasculitis, PAN, HS Purpura, malignant hypertension.

(c) Idiopathic primary glomerular disease e.g Idiopathic crescentic GN, Mebrano proliferative GN, Berger's Disease.

(d) Acute tubulo-interstitial disease due to infection and multi system disease.

Diseases due to infection acquired during service are acceptable as attributable. Aggravation due to service can be examined, in case due to multi system disease and vasculitis taking into account the service factor modifying the course of disease.

72. Asymptomatic Urinary Abnormalities.

It is characterized by mild degree of hematuria, pyurea casts and protenuria below nephrotic range. The causes are due to glomerulonephritis and tubulo interstitial disease.

The combination of nephronal hematuria and protenuria suggests worse prognosis than one alone.

Course is usually unpredictable and may lead to chronic renal failure. This category of cases are usually detected during routine medical check up.

73. Nephrotic Syndrome.

The syndrome is generally held to be present when a patient demonstrates massive proteinuria, reduced serum albumin, edema and hyperlipidemia.

The causes of nephrotic syndrome are:

(a) Primary glomerular diseases.
Minimal change glomerular disease.
Membranous glomerulopathy.
Focal Segmental glomerular sclerosis.
Mesangio proliferative glomerular nephritis.
Membrano proliferative glomerular nephritis.

(b) Infection - post streptococcal GN, leprosy, hepatitis B, malaria.

- (c) Multi system Disease - SLE.
- Vasculitis.
- Diabetic glomerular sclerosis.

If the syndrome is due to infection during service, attributability can be conceded.

Primary glomerulonephritis which may arise out of immune complex disease in the absence of infection and septic foci as a precursor to immune phenomenon, aggravation due to service can be examined. Similarly aggravation can be thought of in kidney disorder due to multi system disease taking into account his service profile.

- (a) Minimal lesion GN recover completely.
(b) In membranous glomerulo nephritis, 50% develop chronic renal failure in 25 years.
(c) 50% of Focal segmental glomerulo nephritis develop chronic renal failure.
(d) 50% of membrano proliferative glomerulo nephritis develop chronic renal failure in few years.
(e) Course is variable in mesangio proliferative glomerulo nephritis.

74. Congenital Diseases of Kidney.

Certain congenital diseases such as polycystic disease of kidney, horse-shoe kidney, pelvic-ureteric junction obstruction (hydronephrosis), ectopic kidney, vesicico-ureteric reflux, megaureter, ureterocele, retrocaval ureter, ureteral duplication, and duplication of collecting system escape detection at the time of enrolment and many manifest later in service as asymptomatic urinary abnormality, hypertension and frequent urinary tract infection. Such kidneys may be easily injured if hydronephrotic or ectopically located. Aggravation will be considered if there is trauma related to service.

75. Urolithiasis.Urinary

Stones usually arise because of break down of delicate balance between excretion of low soluble material and attempt to conserve water by kidney. The balance is upset by failure of adaptation to combination of factors such as diets, climate, activity and also infection.

The increased frequency of urolithiasis in service population discloses the fact that people from Armed Forces constitute special risk group by virtue of service in difficult terrain, climate, compulsive dietary practice and excessive physical activity. The role of infection as a cause to urolithiasis is debated as it may be a complication that may entail following treatment of urolithiasis e.g. instrumentation. However, certain bacterial infection can precipitate urolithiasis.

Aggravation is examined taking into account his service profile.

76. Rhinitis.

Rhinitis is commonly associated with infection, allergy and certain psychosomatic factors. Alteration in temperature, humidity of inspired air and anxiety can precipitate vasomotor rhinitis. Allergic and vasomotor rhinitis should be adjudicated as aggravated, whereas that due to infection may be considered as attributable.

Atrophic rhinitis is a disease of uncertain origin. It has been ascribed to an unsuspected chronic infection or to severe nasal infection in patients having inadequate diet or vitamin deficiency. It can be a complication to surgery of the nose. Acceptance on the basis of aggravation may be appropriate as service in cold climate/HAA may adversely affect the course of disease.

77. Sinusitis.

Paranasal Sinuses can either be affected singly or in a group. The common pre-disposing factors are nasopharyngeal infections, tonsillitis, DNS, bathing in unhygienic pools, poor general environment (bunkers, ill ventilated house, over crowding) exposure to cold. Viruses are offending agents with bacteria as secondary invaders. Chronic sinusitis follows acute sinusitis in which infection has failed to resolve due to inadequate treatment.

78. Spondarthritides.

This is a group of diseases in which an inflammatory arthritis is characterized by negative test for Rheumatoid factor, sacroilitis, spondylitis, asymmetric oligoarthritis, anterior uveitis, familial association and high prevalence of HLA B 27.

The spondarthritides encompasses a spectrum of diseases such as ankylosing spondylitis, Reiter's disease, juvenile chronic arthritis and enteropathic arthritis following ulcerative and crohn's disease.

The current concept of aetiology of these disorders is that they may arise as an abnormal response to infection in genetically predisposed person carrying B 27 antigen.

Ankylosing spondylitis is a chronic inflammatory arthritis involving spine and sacroiliac joint with progressive stiffening and fusion of axial skeleton in cold climate, difficult terrain and hazardous occupation like drivers (MT, AT, tank), can adversely affect the course of disease. Bony ankylosis of vertebral joints is the predominant lesion and may be accompanied by restricted chest movement, iritis, myelopathy and cauda equina syndrome. Once the disease is acquired, the disability is irreversible and permanent. Aggravation due to service is appropriate in all these cases.

79. Squint.

Squint is a latent or manifest deviation of the visual line of the eye due to mal-development of the inherent instinct to blend the images of the two eyes. Untreated in childhood the defect continues in adult life. External factors cannot usually adversely affect the conditions either in its onset or course. Very rarely squint may be associated with specific fevers or violent mental disturbances which provide the exciting cause.

Squint can be considered as attributable to service if it is due to injury, infection during military service.

80. Gonadal Dysfunction (Hypogonadism).

Hypogonadism may result from infections (tuberculosis, mumps, leprosy), varicocele, diabetes, hypoxia (HAA), service related psychogenic factors. It is also reported in professionals engaged in cardiac cath lab, nuclear medicine, x-ray departments and endocrine lab (RIA). Those working in nuclear powered submarines are not immune to this disorder.

Attributability will be appropriate when there is evidence of service related trauma and infection acquired during service. In other cases, aggravation can be examined.

81. Tuberculosis.

(a) Short service cases will, accordingly be examined in the following manner :

(i) Generally speaking, entitlement in any case in which Parenchymatous changes of a tubercular nature are found in the lungs within six months of enrolment, would be limited to one of aggravation, as it would be reasonable to conclude in such cases that the disease had its inception prior to service.

(ii) However in cases of pulmonary tuberculosis, pleurisy with effusion without evidence of old tubercular disease elsewhere in the body attributability would be conceded.

(iii) Any case of pulmonary tuberculosis developing after six months' service : In those cases where the history, clinical and radiological findings point to a recently acquired infection attributability would be conceded.

(b) Tuberculosis other than pulmonary. The same consideration, as in the case of pulmonary tuberculosis, apply and with equal force.

The following terms are used to describe stages in treatment:

(i) Active: All cases discharging tubercle bacilli within the preceding 3 months and individuals on antitubercular therapy will be considered as active.

(ii) Quiescent: Cases in which :

(aa) The general condition and exercise tolerance are good, having regard to extent of the lesion,

(ab) There is no evidence of toxæmia,

(ac) No tubercle bacilli have been found on three consecutive monthly examinations by stained film and

(ad) Changes revealed by other clinical investigations and by serial skiagrams point to regression of the tuberculosis lesion.

(iii) Arrested: Cases in which the disease has been quiescent for a continuous period of at least two years.

(iv) Cured/Recovered: Cases in which the state of radiological quiescence has continued uninterrupted for a period of five years and there has been no deterioration of his general health, effort tolerance and pulmonary function during preceding two years.

82. Uveitis.

Uveitis is essentially inflammation of uveal tract which can be anatomically divided into:

(a) Anterior uveitis affecting Iris and anterior part of Ciliary body.

(b) Intermediate uveitis affecting Ciliary body and periphery of retina.

(c) Posterior uveitis affecting predominantly choroids called retino-choroiditis.

The underlying causes are:

(a) Infection. TB, leprosy, herpes, candida, toxins from septic tooth or septic focus in the body, toxoplasma.

(b) Trauma. Boxing.
 Organized games.
 Penetrating ocular injury.
 Ocular surgery leading to
 sympathetic uveitis.

(c) Systemic disease. Sequelae to ankylosing spondylitis, diabetes, psoriasis.

(d) Idiopathic. Idiopathic uveitis can be triggered off by infection elsewhere in the body such as Klebsiella and Yersinia. Since elaborate investigation

with invasive techniques are not without danger, it is appropriate to award attributability to idiopathic uveitis in addition to those arising out of infection and trauma connected with service. Aggravation can be examined in other causes taking into account worsening of the disability during the service.

83. Valvular Heart Disease.

The principal causes of valvular heart disease are Rheumatic carditis, other causes being congenital, ischemic heart disease, infective endocarditis and cardiomyopathy. It takes several years for valvular disease to develop from the onset of rheumatic fever. Attributability or aggravation can be conceded by judging the merit of each case and also considering the primary disease.

Mitral valve prolapse (floppy mitral valve) is commonly detected in Armed Forces. It is primarily a congenital abnormality. Hence it will be conceded as neither attributable nor aggravated by military service.

84. Vertigo.

It is due to disorder of vestibular system. The causes of vertigo are as under:

- (a) Central: Trauma to 8th nerve at the base of brain
Tumours at cerebellopontine angle (acoustic neuroma)
Disseminated sclerosis
Posterior inferior cerebellar artery thrombosis.
- (b) Peripheral: Meniere's disease
Vestibular neuronitis
Vertebrobasillar insufficiency in cervical spondylosis
Labrynthitis
Diabetes mellitus, hypertension
Drugs (salicylates, quinine, dihydrostreptomycin, kanamycin,)
Otitis media

Vertigo arising out of infection during therapy and trauma connected with service should be treated as attributable. Aggravation can be conceded if stress and strain of service

had played a role in onset of ID e.g. cervical spondylosis, hypertension.

APPENDIX TO CHAPTER VI

INCUBATION PERIODS IN RESPECT OF CERTAIN INFECTIOUS DISEASES

Diseases	Usual incubation Period	Minimum & maximum incubation period for deciding Attributability
Amoebic Dysentery	21 days	14 days to 03 months
Anthrax	02-05 days	
Bacillary Dysentery	1-5 days	Upto 7 days
Cerebro-spinal fever	03-04 days	02 - 10 days
Chicken pox	14-21 days	07-21 days
Cholera	01 to 2 days	hours-5 days
Dengue	5-6 days	03-10 days
Diphtheria	2-5 days	01-07 days
Epidemic Encephalitis	Uncertain	
German Measles	18 days	14-21 days
Gonorrhoea	2-6 days	Upto 21 days
HIV	4 weeks to 6 months	01 year
Influenza	1-4 days	
Infantile Paralysis (AC ANT POLIO)	7-14 days	3-35 days
Kala Azar	02 months to 04 months	02 weeks to 02 years
Leprosy	2-5 years	6months-several years
Malaria	8-14 days	08 days to months
Malaria Quartan	18 days to 06 weeks	
Measles	10 days	07-14 days
Mumps	18 days	12-21 days
Oriental Sore	14 days to 6 months	Upto 1 year
Plague	1-8 days	Upto 15 days
Pneumonia	1-2 days	Upto 7 days
Rabies	02-08 weeks	Variable. May be 4 Days to many years
Relapsing Fever	2-14 days	
Rheumatic Fever	Uncertain	
Sandfly Fever	2-7 days	
Scarlet Fever	1-8 days	
Small Pox	8-17 days	
Syphilis	3-4 weeks	10-90 days
Tetanus	2-14 days	up to 56 days

Trench Fever	5-12 days	
Typhoid and Para typhoid Fever	10-14 days	03 days to 03 weeks
Tuberculosis	Uncertain	
Undulant Fever	6-21 days	
Viral Hepatitis-A	04 weeks	15days-45 days
Viral Hepatitis-B	12 weeks	45 days-180 days
Whooping Cough	07-10 days	
Yellow Fever	2-6 days	10-13 days, hospital acquired

Occasionally cases do occur in shorter and longer incubation periods.

CHAPTER VII

ASSESSMENT

Definition.

1. Medical Officers are called upon to evaluate a disablement at the time of Invaliding Medical Board, Release Medical Board, Review Medical Board, or Appeal Medical Board for those invalidated/released in low med cat, or on subsequent occasions.
2. The evaluation of a disablement for pension purposes is called assessment.

Basis of assessment.

3. The purpose of the disablement evaluation is to ensure compensation on equal terms for all members of the Armed Forces of similar status suffering from a like disablement which may be due to injury or disease. It is estimated by reference to the physical or mental capacity for the exercise of the necessary functions of a normally occupied life, which would be expected in a healthy person of the same age and sex. It should represent the extent to which the disablement has reduced that capacity. It is determined solely on general functional capacity. Consideration should not be given to the member's capacity or incapacity to follow his own or any specific trade or occupation. Assessment should be based on measurement of plain facts. Sympathy, sentiments and personal feelings should not come in the way of assessment.

For arriving at a proper assessment of a disability, it is necessary to elicit a conclusive history, carry out a thorough clinical examination and all relevant laboratory and radiological investigations. It has to be determined whether the disability is temporary or permanent and also the degree of disablement as it pertains to working capacity. The physical examination and laboratory tests must be relied upon more than ever to substantiate or disprove symptoms and complaints. In many cases, the physical findings may be negative, but the patient may complain only of pain, e.g. a headache, pain in the chest etc. The evaluation of a disablement based on measurement of function is a sound procedure by means of which a reliable medical opinion may be reached by reason or logic rather than by intuition,

conjecture or assumption. However where investigations facilities are not available the assessment will be done on the basis of clinical findings.

Definition of Function

4. The term "function" is one that is commonly used to denote the usefulness of a part of the body. In stating the extent of loss of function of a part, one has got to find out what the patient cannot do. For this, one should know what constitutes activity with perfection. When anatomical or physiological changes have taken place leading to the stiffness, atrophy or pain and the usefulness and the efficiency of the organ are impaired, the extent of the clinical disturbance is revealed through physical examinations.

However, the extent of deficiency of functional ability does not correspond to the extent of physical limitation. Limitation of motion by 50 per cent does not mean 50 percent loss of function. The clinical findings must be designated as factors contributing to the loss of function and not measuring it.

5. In analysing the problem of assessment a thorough examination together with a deterioration of the anatomical or physiological alterations from normal as compared to abnormal physical state of the same age and sex and the effect of such alterations are taken into consideration. In the case of injuries or diseases, the important points to note are :

- (a) Quickness of action.
- (b) Coordination of movements.
- (c) Strength.
- (d) Security.
- (e) Endurance.

Expressed negatively, loss of function may be estimated in terms of (a) delayed action; (b) awkwardness; (c) weakness; (d) insecurity; (e) diminished endurance; (f) lowered swift factor and (g) the adverse influence of the conspicuous impairment.

6. The functional factors e.g. in the hand may be stated as (a) quickness and nimbleness of digital action; (b) coordination of fingers and thumb in opposing finger tips to thumb and thumb to fingers and palm; (c) Strength of gripping and fist making ability, striking, slapping, holding and pushing power; (d) security or reliability of delicate finger sense; and (e) endurance of holding, gripping or pinching.

In respect of leg, foot and toes, the factors would be : (a) quickness, nimbleness, springiness of step and gait (b) coordination of feet and toes in smoothness and steadiness of steps and gait (c) strength or weight-bearing and power of action in standing, walking, running or jumping and (d) security or reliability or toe, heel or foot action.

In an examination of the back, the gait, deformity, dressing or undressing, sitting down or getting up attitude will have to be taken into consideration, as also muscle spasm. Stiffness of the spine causes movement of the hips prior to that of the spine.

In the hip, the stance or gait or sitting down as in dressing, muscle spasm or rigidity, swelling or atrophy, degree of movement at the hip; have to be taken into consideration.

In the knee, the gait, swelling, atrophy, movements painful or free, limitation of such movements have to be considered.

In the foot, the gait, deformity, swelling, movements active and passive, muscle power, weight-bearing on toes and heels, and ankylosis if any, have to be taken into consideration.

In the shoulder, the general appearance, deformity, swelling, atrophy, extent of motion painful or free, will have to be considered, as also any neurological signs. The same applies to elbow, wrist and the hands.

In head injury cases, the peculiar characteristic manner of special coordination of movements, gait, general appearance and behaviour with an examination of the scalp, the eyes, the facial expression along with an examination of the reflexes will have to be considered amongst other symptoms attributed to trauma, such as headache, dizziness, insomnia, nausea, vomiting etc.

In all the above, there must be distinct recognition between organic disturbances and functional neurosis. Once this distinction is made in the clinical entity of the disability, the examiner is in a position to evaluate the disability on the merits of pathological significance.

Principles of Assessment.

7. The assessment of a disability for pension purposes is the estimate of the degree of disablement it causes, which can properly be ascribed to service. The disablement properly

referable to service is assessed slightly differently at the time of discharge from the forces.

8. There are various stages of a disability. These are : treatment period, healing period, temporary disablement or permanent disablement-partial or total. Thus, a disability causes disablement which may be temporary or permanent.

9. In the light of the above, differentiation should be made between "NIL DISABLEMENT" and "NO DISABILITY".

"Nil Disablement" means that although a definite disability is, or has been in evidence, any disablement resulting there from has either ceased or has become so small as not to be appreciable.

"No Disability" means a case where an individual is said to be suffering from a disability but medical science can find no evidence of the existence of that disability either present or past.

10. Disabilities which necessitate invalidation from service are capable of improvement in due course or are of permanent nature. "Permanent" means persisting for all times, i.e. the disablement is supposed to be in a permanent state when the condition of the disability is unchangeable.

Computation of Assessment.

11. In the forces, the evaluation of disablement or assessment, is made to ensure compensation on equal terms for all members suffering from like disablement. When the assessment is below twenty per cent, it may be assessed as 1-5 per cent; 6-10 per cent; 11-14 per cent and 15-19 per cent. Subsequent assessments are made in multiples of 10, rising from 20 per cent; to maximum of 100 per cent. If the disability is assessed at 100 per cent, a recommendation will invariably be made as to the necessity or otherwise for a constant attendant, bearing in mind that the necessity arises solely from the condition of disability. If an attendant is recommended, the period for which such attendant is necessary, should be mentioned.

A member of the Armed Forces who is in receipt of a disability pension in respect of disablement, the degree of which is not less than 100 per cent, may be awarded constant attendant allowance if it is certified by the Medical Board why a constant attendant on him is necessary on account of the disablement.

At the Time of Discharge From the Forces.

12. Normally, the whole of the disablement when caused by the disability will be accepted. This rule will apply irrespective of whether the disability is attributable to service, or is merely aggravated thereby. In the latter event, part of the disablement on discharge may have been present before service and/or may have been brought about by the natural progress of the disability during the service period. But as it is impossible, for so long as the stress and strain of service continues, to apportion quantitatively the effect of service and non-service factors, the entire disablement at the time of discharge will be taken into account. For example:

(a) Where a person who had a partially disabled hand sustains an injury to the same hand which renders it less useful than before or a person with an impaired foot injures the other as a result of service thus increasing his defect in locomotion; or

(b) Where a person gives history of cough and cold prior to enrolment and is invalided out of service for chronic bronchitis held to be aggravated by service, pension will be admissible for the total disablement. Special consideration should be given to cases in which the disablement has been or may have been worsened by the improper or excessive use of alcohol, tobacco or drugs, or by sexually transmitted diseases. In such cases, the effects of such activity will be excluded in assessing disablement ascribable to service.

13. It is realised that it is not always possible to decide what portion of the disability is due to natural progress and what portion is due to persisting effects of service aggravation or due to extraneous factors. The Medical Board will have to decide the issue based on all facts placed before them, their knowledge of the natural history of the particular disease, the circumstances after discharge, as the clinical condition etc.

14. In attributable cases, if death occurs after invaliding, the family is entitled to pension if the fatal disability is related to the invaliding disability, irrespective of the degree of disablement.

15. Assessment with Regard to Percentage of Disability.

The assessment with regard to percentage of disability as recommended by the Invaliding Medical Board, Reserve Medical Board would be treated as final unless the individual himself requests

for review except in case of disabilities which are not of permanent nature. The opinion of the Reassessment Medical Board, Review Medical Board or Appeal Medical Board, which will be constituted by DGAFMS (later two) as & when required, will be final.

16. Reassessment of Disability. There will be no periodical reviews by the Resurvey Medical Boards for re-assessment of disabilities. In case of disabilities adjudicated as being of a permanent nature, the decision once arrived at will be final unless the individual himself requests for a review. In cases of disabilities which are not of a permanent nature, there will be only one review of the percentage by a Medical Board to be carried out later within a specified time frame. The percentage of disability assessed/recommended by the Board will be final unless the individual himself asks for a review. The review will be carried out by Review Medical Board constituted by DGAFMS.

17. Paired Organs.

(a) Where a disability due to service exists in one or both of the paired organs such as "eyes, ears, limbs" the condition and degree of disablement if any, should be noted separately for each organ, but the Board's recommendation of an assessment of disablement for pension purposes, will be based on an estimate of the functional capacity at the time of invaliding, of the paired organs working together.

(b) It may happen that the functional capacity of the combined paired organs is partly due to an accepted disability or disabilities and partly due to a disability or disabilities unconnected with service. In these cases, the following principles should be observed for the assessment of the disablement:

(i) The first assessment for pension purposes is made on the total functional incapacity of the paired organs working together at the time of invalidation and without any deduction on account of "unaccepted components".

(ii) Subject to the exceptions specified below any subsequent increase in the non service disablement existing after discharge, whether due to injury or disease, will be excluded from the assessment.

(iii) Cases arise in which at the time of discharge, there is damage by service to only one of the paired

organs and the other is either normal, or impaired in a minor degree. Where the disablement acceptable under clause (ii) above and the disablement of the other limb or organ are together assessable at any subsequent date at 100 per cent, the assessment for pension purposes will be increased by one half of the difference between the current assessment and 100 per cent. For instance, a pensioner receiving an award at 40 per cent for the loss of one eye, who later loses the sight of his other eye through a non service cause, will have his award increased to 70 per cent; and a pensioner with an award at 80 per cent for a gun shot wound of an arm, who later develops severe arthritis of his other arm, thereby being 100 per cent disabled, will qualify for a revised award at 90 per cent. Where the combined disablement of the pair of organs is less than 100 per cent, but is more than twice the disablement acceptable under clause (ii) above, the assessment will be increased to one half of the combined. If for example, a pensioner with an award at 30 per cent for the loss of vision of one eye partially loses the sight of the other eye through a non service cause and the defective vision of both eyes together is assessable at 80 per cent, his award will be increased to 40 per cent.

(iv) The provisions of the preceding sub-clause are applicable even where the second of a pair of organs has been disabled by some generalized disability e.g. (rheumatoid arthritis) which would also have disabled the first of the pair, if it has not previously been lost or damaged as the result of service.

(c) When a pensioner who has an award for the loss or disablement of one of the pair of organs (or limbs) has suffered loss or displacement of the other the Medical Board should give a full report on the condition of the second organ and the degree of disablement from this cause and also an opinion on the overall disablement from the two organs working together. If the pensioner has a generalised disability (e.g. disseminated sclerosis, rheumatoid arthritis, paralysis agitans) the Medical Board should assess its effect on the second organ or limb.

(d) Where the disability due to service has no connection with the pre-existing disability, as for example, a person who had lost a finger prior to enlistment, loses a great toe

by service, compensation will be restricted to the loss of the great toe only.

(e) Specific injuries and individuals with artificial limbs/other surgical appliances - The assessment on account of disablement of individuals who have been provided with artificial limbs or other surgical appliances including surgical boots, leg instruments (walking calipers), spectacles, artificial eyes, aids to hearing, crutches, invalid chairs, tricycles, metatarsal bars, surgical belts etc will be made on the following basis :

(i) In cases of loss or amputation of limb or limbs, or a disability involving the loss of use of limb or limbs, the assessment will be made as given in this chapter without taking into account the fact of any artificial limb etc which may have been provided.

(ii) In other cases (excepting those of deafness) in which a surgical appliance has been provided in order to ameliorate the effect of an accepted disability, the assessment will be made on the basis of the residual functional incapacity after taking the surgical appliance into use, e.g. in defective vision, the assessment is based on the visual defect as measured after correction with glass or lenses. Again in a hernia which can be controlled by a truss, presents less disablement than one which could not be so controlled and is to be assessed accordingly. In case of deafness, in which aid to hearing is provided, the assessment will be made on the basis of functional incapacity without taking into account for the present, the use of the aid to hearing.

17 A. Composite Assessment.

(i) Where there are two or more disabilities due to service, compensation will be based on the composite assessment of the degree of disablement. Generally speaking, when separate disabilities have entirely different functional effects, the composite assessment will be the arithmetical sum of their separate assessments. But where the functional effects of the disabilities overlap, the composite assessment will be reduced in proportion to the degree of overlapping. There is a tendency for some Medical Boards to reduce

the composite assessment in the former group of cases. This is not correct.

(ii) The assessments of amputation and other specific injuries as well as of other conditions have been given in the succeeding paragraphs. In some particular conditions such as Diabetes, Nephritis, Hypertension and Mental Diseases, there may always be some differences of opinion among the Medical Officers. Therefore, it is suggested that the Medical Officer-in-charge case, as well as the Specialist while describing the disability, should bring out full details so that the functional incapacity caused may be reasonably assessed by one who reads through the record. It must be realised that the gait is an important factor in some diseases and injuries affecting the lower limbs. Gait should be described in such cases.

(iii) The functional effects of two or more disabilities sometimes produce an overall disablement which is greater than that represented by the arithmetical sum of the separate assessments. The commonest examples will be found in cases of paired organs. There is also another type of case involving complementary organs, for which it is not possible to lay down hard and fast rules. A man with a material loss of vision coupled with a fair degree of deafness may be more seriously disabled than is suggested by the arithmetical sum of the separate assessments. The degree of blindness would be more incapacitating in a man so deaf than in a man with normal hearing, and conversely, the deafness would be more serious in a man partially blind than in a man with normal vision. Such cases require special consideration on their individual merits.

(iv) Assessment of amputation and other specified injuries. Specific injuries involving the loss of limbs through defined sites and loss of certain other organs offer a basis on which uniform compensation can be given. These are given in Appendix I to this Chapter. It would be seen that the schedule relies almost entirely on injuries relating to an anatomical or structural loss, whether it be of a special sense organ or one or more limbs. Assessment for specified Minor Injuries is given in Appendix II to this Chapter.

A member who loses his left or right arm should be compensated according to whether he is left or right-handed. In cases involving amputation of hand/arm, the Medical Officer examining the member should indicate whether the individual is right or left-handed.

(v) Injuries other than those of Amputation to Limbs. The scale of assessment for amputation will serve as a guide to the assessment of injuries to a limb. The loss of function of a limb or part of limb will be regarded as equivalent to a corresponding amputation provided that the condition cannot be remedied by treatment. For example, if a hand is useless and no remedial treatment is indicated, the disability should be assessed at the same rate as for amputation of hand. If, however the usefulness of the hand is due to a finger being bent into the palm—a condition which can be relieved by amputation of the finger, the assessment should not be higher than for the loss of a finger. It must be borne in mind, however, that the present disablement as compared with probable ultimate disablement, may be greater for a time because of a lack of adaptation and muscular weakness due not only to the injury itself, but also due to a period of disuse following the injury.

17 B Ankylosis. The assessment for complete fixation of a joint is determined appropriately with regard to its optimum position for greatest usefulness.

In most cases the optimum positions for the various joints are:

(i) Shoulder. Arm abducted to about 50 degrees, the elbow slightly in front of the body, so that when the elbow is at right angle and the forearm supinated, the palm of the hand is towards the face. When the humerus is fixed to the scapula in this position, the arm be lifted to a considerable height by scapular action.

(ii) Elbow. The angle between humerus and forearm should be rather more than a right angle, about 110 degrees. The forearm should be supinated so that the palm is slightly upwards.

(iii) Wrist. Between 15 degrees and 45 degrees of dorsiflexion with slight ulnar abduction the inferior radio-ulnar joint being unaffected.

(iv) Hip. Thigh flexed 10 degree with slight abduction and slight external rotation.

(v) Ankle. Foot at right angle to leg.

When a joint is ankylosed in an unfavourable position, an increase in the scale of assessment corresponding to the additional degree of disablement entailed, would be justified. On the other hand, when a joint is not truly ankylosed but only limited in its movements, the assessment would normally be reduced.

Assessment for various Ankyloses in Optimum Position

	Right	Left
Upper Extremity		
Shoulder	40%	30%
Elbow	40%	30%
Wrist	30%	20%
Lower extremity (Rt or Lt)		
Hip		60%
Knee		40%
Ankle		30%

This is the term used to indicate the position of greatest usefulness.

Flail Joints

18. Flail joints are more disabling than the ankylosed joints. Where there is abnormal mobility, the assessment of both upper and lower limb will be higher than that of ankylosis. Any improvement due to skilled orthopaedic treatment will call for corresponding reduction in assessment.

19. Defective Vision.

Painful blind eye/loss of one eye 50%
 Loss of vision one eye without complications or disfigurement, the other eye being normal 40%

Loss of lid and disfigurement	40%
(loss of eye lid and surrounding tissue eye with vision unaffected both sides)	60%
Hemi anopia (Bilateral)	60%
Field defect one eye (can not see particular quadrant, scotoma and wedge in field of vision)	40%
Field defect both eyes	40%

S No	When best obtain- able acuity is in one eye the other	Asses- ment Percent- age	Sr.No.	When one eye removed best obtain- able acuity in remain- ing eye with Or without Glasses, is	Asse- ssment perce- ntage	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	6/6 or 6/9 or 6/12	6/24	15-19	1 2 3	6/6} 6/9} 6/12}	40
2	6/6 or 6/9 or 6/12	6/36 6/60 3/60	20			
3	6/9 or 6/12	Nil	30	4	6/18	50
4	6/18	6/18	15-19	5	6/24	70
5	6/18	6/24	30	6	6/36	80
6	6/18	6/36)				
7	6/18	6/60)	40	7	6/60	90
8	6/18	3/60)		8	3/60	100 with CAA

9	6/18	Nil	50	9	Nil	100 with CAA
10	6/24	6/24	30			
11	6/24	6/36	40			
12	6/24	6/60)	50			
13	6/24	3/60)				
14	6/24	Nil	70			
15	6/36	6/36	50			
16	6/36	6/60)	60			
17	6/36	3/60)				
18.	6/36	Nil	80			
19	6/60	6/60)	80			
20	6/60	3/60				
21	6/60	Nil	90			
22	3/60	3/60	90			
23	3/60	Nil	100 with CAA			
24	Nil	Nil	100 with CAA			

(1) These assessments are based on the visual defects measured after correction with glasses, by the Snellen's test only.

(2) A person is held to be "blind" if he is so "blind" as to be unable to perform any work for which eyesight is essential.

(3) While assessing defective vision, field of vision must also be taken into consideration. If a man has a vision of 6/6 but his fields have contracted to 10 degrees, he is certifiably blind, and therefore, 100 per cent disabled.

(4) Individuals having vision less than 3/60 both eyes are treated as good as becoming completely blind and hence assessment of 100% is appropriate.

NOTES :

R.V. 6/6 means normal vision of the right eye, i.e. the right eye can read at six meters what it ought to be able to read at that distance.

L.V. 6/60 indicates a serious impairment in the vision of the left eye in that it can only read at six meters what it ought to be able to read at 60 meters.

L.V. 3/60 means that the visual acuity is only half that indicated by 6/60.

L.V. NIL or 0/60 means that there is no useful vision in the left eye.

Defective Hearing.

20. Hearing Loss. Hearing loss refers to impairment of hearing, the degree of which may vary from mild to total hearing loss.

Assessment of hearing loss :

(a) Screening for hearing loss should be carried out with free field hearing tests, namely Conversational Voice Tests, (CV) and Forced Whisper Test (FW) using Phonetically Word List. If any subject scores less than 610 cms in CV/FW Test, he should be subjected to assessment for a hearing loss using pure tone audiometry.

Assessment should be based on the grade attained using both ears together, the percentage assessment appropriate to the grade thus attained is given below :

Grade	Degree of hearing attained	Assessment for both ears used together
1.	Total deafness	100%
2.	Shout not beyond 3 feet	80%
3.	Conversational voice not over 1 Foot	60%
4.	Conversational voice not over 3 Feet	40%
6.	Conversational voice not over 10 Feet	
	(a) Unilateral total deafness	40%
	(b) Otherwise	20%

A case in which the right ear attained grade 4, the left ear grade 2 should be assessed as follows :

Disability for grade 4	40%
Disability for grade 2	80%

Total mean disability	40 + 80 = 60%

	2

Assessment for other ENT Conditions.

(a) Laryngo-tracheal injuries:

Loss of functional speech	100%
Gross hoarseness of voice leading to poor communication	60%
Tracheal stenosis with breathing difficulty without tracheostomy	60%
Laryngeal/Tracheal obstruction with tracheostomy	100%
(b) <u>Injuries to Oral Cavity.</u>	
Lingual nerve injury leading to hemianaesthesia of tongue	20%
Unilateral hypoglossal nerve injury leading to motor palsy	30%
(c) <u>Sinusitis.</u> is progressively assessed as per number of sinuses involved:-	
B/L DNS Symptomatic (Traumatic only)	- 20%
Sinusitis(single sinus)/unilateral polyp	-less than 20%
Bacterial sinusitis/bilateral polyps	-20%
Pan sinusitis-	-20%
(d) <u>Rhinitis.</u>	
Allergic fungal sinusitis	- 40%
Invasive fungal sinusitis (confined to sinuses)	-60%
Invasive fungal sinusitis (extending beyond sinuses)	80%
Symptomatic DNS(post-traumatic/residual)	20%
Nasal allergy(refractory)	20%

DISEASES OF CIRCULATORY SYSTEM

21. Assessment of the degree of disablement in cardiovascular diseases should be broad based and should take into account the functional status, left ventricular function, the cardiac rhythm, objective assessment of ischaemia (morphological characteristics as assessed by echocardiographic/ angiographic evaluation and treatment modality offered.

Assessment for Valvular Heart Disease.

(a) Valvular Heart Disease should be assessed in a composite manner on the basis of functional status, left ventricular function, the cardiac rhythm, objective assessment of morphological characteristics of valves as evaluated by echocardiography and treatment modality offered.

(b) Mitral valve disease

(i) Mild MS with/without mild MR	30 %
(ii) Moderate MS with or without symptoms	40 - 50%
(iii) Severe MS with mild symptoms	50 - 60%
(iv) Severe MS with symptoms brought on by less than ordinary activity	60 - 80%
(v) Severe MS with symptoms at rest or congestive cardiac failure	80-100%
(vi) Mild MR with no MS and no symptoms, normal LV function	20%
(vii) Moderate MR with no symptoms or mild symptoms and normal LV function	30 -40%
(viii) Severe MR with no or mild symptoms and normal LV function	50%

(c) Aortic Valve Disease

(i) Mild AS	30 %
(ii) Moderate AS	40 %
(iii) Severe AS, no symptoms and normal LV function	60%
(iv) Severe AS, symptoms of angina or syncope LV dysfunction or congestive cardiac failure	80 - 100%
(v) Mild AR with or without mild AS	30 %
(vi) Moderate AR with or without mild AS	40 - 50 %
(vii) Severe AR, no or mild symptoms and normal LV function	60 %
(viii) Severe AR with symptoms of palpitations, angina, dyspnoea on ordinary exertion or LV dysfunction or congestive cardiac failure	80 - 100 %
(ix) With atrial fibrillation add	20 %

Heart size enlarges due to hypertrophy and dilatation. The enlarging size of the heart often leads to diminished efficiency. The enlarged size of the heart is not directly proportional to decreasing exercise tolerance or ejection fraction. Therefore, it is necessary to separately examine the heart size, exercise tolerance and ejection fraction in each individual case, to arrive at a correct assessment of disablement within the guidelines mentioned in the table given below.

Enlargement of the heart can be mild (CT ratio 0.51-0.60), moderate (CT ratio 0.61-0.75) or severe (CT ratio >0.75). Underlying etiology will also influence the assessment.

- | | |
|--|---------|
| (a) Mild enlargement with good exercise tolerance and normal ejection fraction | 20%. |
| (b) Moderate enlargement with good exercise tolerance and normal ejection fraction | 40%. |
| (c) Moderate enlargement with good exercise tolerance and low ejection fraction | 50% |
| (d) Severe enlargement with poor exercise tolerance and poor ejection fraction | 70% |
| (e) With fibrillation or venous engorgement | Add 30% |

(d) Assessment of Rhythm and Conduction Disorders.

- | | |
|---|-----------|
| (i) Atrial Fibrillation without congestive cardiac failure | 40 % |
| (ii) Paroxysmal Tachycardia | |
| (a) Infrequent attacks | 30 % |
| (b) Frequent attacks | 40 - 50% |
| (c) Frequent attacks with haemodynamic compromise | 60 % |
| (iii) Paroxysmal Tachycardia with successful radio-frequency ablation | nil |
| (iv) Heart Blocks and Sick Sinus Syndrome | |
| (a) Symptomatic high degree AV block requiring pacemaker | 50 % |
| (b) Asymptomatic sick sinus syndrome | 30 - 40 % |
| (c) Symptomatic sick sinus syndrome | 50 % |
| (d) Heart blocks and sick sinus syndrome with pacemaker | 40 % |

(e) Assessment for IHD.

- (a) Once the clinical diagnosis of IHD is established the individual should be assessed on the following basis:
- (i) The functional status.
 - (ii) Objective assessment of ischaemia.
 - (iii) Left Ventricular systolic function.

- (iv) Rhythm abnormalities.
- (iv) Treatment for IHD.
- (b) Disablement for IHD.
 - (i) No Symptoms and or symptoms brought on only by strenuous activity and or No or mild ischaemia and or normal LV function 30%
 - (ii) Symptoms brought on by ordinary activity and or moderate ischaemia and or normal LV function and or mild LV dysfunction 40 - 50 %
 - (iii) Symptoms brought on by ordinary activity and or moderate ischaemia, and or moderate LV dysfunction 50 - 60%
 - (iv) Symptoms brought on by less than ordinary activity and or moderate to severe ischaemia, and or moderate LV dysfunction, untreated severe triple vessel or left main disease 60 - 80%
 - (v) Symptoms at rest and or unstable angina, moderate to severe ischaemia, and or severe LV dysfunction with or without congestive cardiac failure 80-100%
 - (vi) Presence of atrial fibrillation or complex ventricular arrhythmias Add 20-30 %
- (f) Primary Hypertension.
 - (a) Uncomplicated primary hypertension 30 %
 - (b) Primary hypertension with involvement of target organs (heart, brain, eyes, kidney) 40% - 100 %
- (g) Assessment for Aneurysm of Aorta.
 - (i) Simple aneurysm of aorta 50 %
 - (ii) Aneurysm of aorta requiring intervention or with compromise of vital organs 70- 100%
 - (iii) Dissecting aneurysm of aorta 70-100 %

Assessment in Peripheral Vascular Diseases.

1. In the presence of symptoms and signs, a minimum of 20% is awarded and can be increased further based on the functional capacity of the part and limb affected.

2. Disability assessment in case of extremity amputations following limb ischemia is to be awarded as per existing assessments.

DISEASES OF THE DIGESTIVE SYSTEM

22. (a) **Peptic Ulcer.**

Peptic Ulcer has a span of activity for seven to eight years before becoming inactive with treatment or end up in complications like stenosis or outlet obstructions. Sometimes invalid's own account and estimate of his symptoms are reflected by minimal clinical findings. Endoscopic healing is no absolute criterion for cure of the disease. If medical therapy is stopped after endoscopic healing, chances of recurrence is 60-80% in one year.

The assessment of peptic Ulcer is as under :

- | | |
|---|--------|
| (i) Uncomplicated peptic ulcer | 20% |
| (ii) Complicated peptic ulcer | 30-50% |
| <u>Haemorrhage.</u> | |
| (Quantified by clinical haematological parameters and need for blood transfusion) | |
| Perforation (healed) | 20% |
| Gastric outlet obstruction | 30-40% |
| (iii) Complication of peptic ulcer treated with surgery. | |
| Surgery uncomplicated | 20% |
| Surgery complicated | 30-50% |
| (Anastomotic ulcer, Intestinal obstruction, Incisional Hernia) | |

(b) Inflammatory Bowel Disease.

Assessment is based on frequency of motion, blood stool, constitutional symptoms such as fever, degree of damage to bowel.

- | | |
|--|---|
| IBD only with intestinal lesions | 30-40% |
| IBD associated with extra intestinal manifestation | 30% plus (assessment for extra intestinal lesion) |

(c) *Hernia.* As surgical repair is the only reliable treatment and the results are completely satisfactory and the operation is one which does not endanger life in the vast majority of cases, no permanent disablement results with proper treatment.

The chief factor in functional disability is that of endurance. Entitlement in cases where an operation is not

instituted, would depend upon whether a truss is worn or not. Weakness even after wearing a truss would be 20 per cent.

(d) Assessment of miscellaneous conditions of gut.

Colonic polyp, colonic diverticula	20%
Fistula in Ano, Haemorrhoids	20%
Prolapse rectum	20-30%
Pancreatitis uncomplicated	20%
Pancreatitis complicated with diabetes	30-40%

(e) Assessment liver diseases.

Acute hepatitis	20-30%
Chronic hepatitis	30-40%
Cirrhosis with complication	50-100%

Assessment of AIDS

23. Assessment of Longevity:

- (a) Asymptomatic HIV Infection: Since transition to AIDS may not occur even up to 10 - 15 years, such cases on release can be recommended for full commutation of pension.
- (b) AIDS. With the advances in highly active retroviral therapy and treatment of opportunistic infections, these cases are known to survive for long periods. The assessment should be based on the clinical profile of the case and consensus of medical opinion. Loading of age for 01 - 02 years at RMB is considered appropriate in such cases.

Assessment of Degree of Disablement on Invalidment and Release:

- (a) Asymptomatic HIV infection - As per Medical Boards recommendation
- (b) Manifest AIDS defining illness - 100%
- (c) On release (RMB) - Actual percentage

ASSESSMENT OF LUNG DISEASES

24. Assessment of lungs is broad based, should take into account clinical, radiological, anatomical and functional states of lung.

Apart from these, the degree of disablement due to lung disease can be evaluated by spirometric data, clinical bed side tests (6 minutes walk single breath counting, capacity to blow candle and ECG) spirometry indicates the presence of obstructive and restrictive lung diseases.

These diseases can be objectively evaluated by demonstration of proportionate reduction in vital capacity (VC) forced expiratory volume in one second (FEV) and peak expiratory flow rate.

(a) Obstructive Disease.

<u>Percentage FEV/VC</u>	<u>Assessment</u>
80% of predicted value	normal
60-80%	40%
50-60%	50%
40-50%	60%
less than 40%	100%

(b) Restrictive Diseases

<u>Percentage VC and PEFr</u>	<u>Assessment</u>
80% of Normal	Nil
60---80% "	40%
50---60% "	50%
40---50% "	60%
<40% "	100%

Assessment Pulmonary Tuberculosis.

25. Assessment of extent of disablement should be done on the basis of subjective and objective parameters like clinical examination, and evaluation of functional capacity with

- (a) Range of chest expansion
- (b) Exercise tolerance like 12 minutes walking test
- (c) Presence of any evidence to suggest pulmonary hypertension, right ventricular hypertrophy and/or evidence of cor pulmonale.

- (d) Spirometry when available should be carried out to estimate functional capacity. Vital capacity above 70% of normal can be taken as normal lung function amounting to disability of less than 20%.

The degree of disablement on invalidment from a service hospital will be regarded as 100 per cent for one year in cases which are "capable of improvement" and as 100 per cent for two years in cases which are regarded as "incapable of improvement". Thereafter, the assessment will be made as follows :

(a) Capable of improvement. In this condition, assessment depends upon whether disability is quiescent, arrested or cured/recovered, as defined in para 81 of chapter VI. A quiescent case, will be assessed at 50-100 per cent for two years; an arrested case at 20-50 per cent for three years; and a cured/recovered case at less than 20% final.

(b) Incapable of improvement. If the reassessment Medical Board confirm the initial findings that the disability is incapable of improvement a life award for 100 per cent disablement will be granted. If, on the other hand, the Reassessment Medical Board finds that there has been an improvement they will classify the disability as capable of improvement, and the degree of disablement will be assessed as in (a) above.

Disablement for cases after surgical treatment will depend upon functional incapacity suffered due to the disease and the effects of surgical treatment. An individual with a quiescent or arrested lesion may be employed, but the assessment will not be reduced because the individual is capable of earning his livelihood.

Assessment Chronic Bronchitis.

		Assessment
26.	(a) Without emphysema	20-40%
	(b) With emphysema	40-60%
	(c) If the circulatory system is also affected	50-80%
	(d) With signs of heart failure	80-100%

Assessment of Asthma.

27. Uncomplicated Asthma 20-40%

Assessment of Bronchiectasis.

28. It is common sequelae to pneumonias more so in tubercular pneumonia.

Assessed at 20-30%

Assessment of Mental Behavioural (Psychiatric) Disorders.

29. There seems to be a tendency to under assess mental and behavioural (psychiatric) disorders on the part of some medical boards. As long as there is no element of malingering, the disablement should be the same as for those conditions resulting from organic causes. This is particularly important in the present era as stress related psychiatric disorders because of exposure to long tenures of duties in highly stressful environments like CI ops are common in their occurrence.

Since the brain functions as a whole, in such cases the assessment should cover all the mental conditions present, irrespective of whether or not all the conditions present are "accepted" disabilities. The Boards should also give separate assessment for each condition, as compensation would be discontinued when the total disablement falls below pensionable degree viz 20 per cent or only the "non-accepted" condition persists, whichever is earlier.

Assessment is based on the criteria of individual's capability to look after himself and family.

(a) Person able to look after himself and interact with his family and gainfully employed :

Assessment 40% for life.

(b) Person is only able to look after himself but unable to interact with family :

Assessment 60% for life.

(c) Individual is not able to look after his basic needs:

Assessment 100% for life.

Assessment of Skin Diseases

30. (a) Leprosy. In this condition assessment depends upon whether the disability is active, quiescent, arrested or recovered. A quiescent lesion is one which shows no activity. An arrested lesion is one which has been quiescent for two years and a recovered lesion is one which has remained quiescent for five years. An active case, lepromatous or nodular, a case in lepra reaction, a case with facial disfiguration is assessed at 100 per cent for one year; a quiescent case between 50-100 per cent for two years; and an arrested case between 20-50% for three years. In cases which are "incapable of improvement", if the Reassessment Medical Board confirm the initial finding that the disability is still incapable of improvement, a life award for 100 per cent will be granted. If, on the other hand, there has been an improvement, the degree of disablement will be as above. Deformities have to be assessed depending on functional disablement.

The disablement should not be reduced simply because of re-employment.

- | | |
|---|---------------------------------|
| (b) Corns, callosities and Warts- | 20% |
| (c) Eczema/Dermatitis- | 20-40% depending upon severity. |
| (d) Psoriasis (i) With skin involvement alone - | 20% |
| (ii) Extra-cutaneous involvement- | 30-50% |

Assessment of Bone and Specific Injuries

Assessment in Fracture (limb bones).

31. Fracture may be intra articular or extra articular. Damage is maximum in intra articular fracture and fracture with faulty alignment as it may cause restriction of movement and associated osteo-arthritic changes.

<u>Category</u>	<u>Assessment</u>
(a) Intra articular with osteoarthritic changes	30-40% for life
(b) Long bone fracture, union with alignment	20%

- | | | |
|-----|---|--------------------------------|
| (c) | Long bone fracture with neurovascular bundle involvement | 40-50% |
| (d) | Shortening of the limbs | 20-30% |
| (e) | Functional loss equivalent to loss of limbs at different levels due to non-union, delayed union, malunion and chronic infection | scale as laid down in the text |
| (f) | Use of joint prosthesis, intramedullary nail plating | 30-40% |
| (g) | Osteomyelitis as complication to comminuted fracture or systemic infection- | |
| | Weight bearing bone | 30% |
| | Non-weight bearing bone | 20% |
| | Osteomyelitis associated with pathological fracture | 40% |

Assessment of Spinal Deformity.

32. It is a common sequelae to fracture vertebrae, caries spine and ankylosing spondylitis.

- | | | |
|-----|---|--------|
| (a) | Flexion, extension, lateral flexion deformity | 20-40% |
| (b) | Stiff spine | 50% |
| (c) | Stiff spine with restriction of chest expansion (e.g. ankylosing spondylitis) | 60-80% |

33. Assessment of low backache.

- | | | |
|-----|--|--------|
| (a) | Low backache | 20% |
| (b) | Low backache with neurological involvement | 30-50% |

Duration of award in low backache due to musculo-facial strain should be for a maximum period of 5 years and in the other causes of low backache, award can be extended for further period depending on clinical and radiological finding.

Assessment for IDK.

34. Assessment is based on functional capacity of joint. Incapacitation is severe in cruciate ligament injury and cartilage injury giving rise to osteoarthritis.

(a) Traumatic synovitis and collateral ligament injury:
assessment 20% for life.

(b) Cruciate ligament injury and chondroid injury:
assessment 20-30% for life.

Assessment of neurological disorders

35. Assessment is based on the following guidelines :

(a) Muscle power, tone and contracture

Quadriplegia	100% plus CAA
Paraplegia	100% plus CAA

Loss of Power (applicable to both upper and lower limb)

Rt limb (right handed person)	70%
Lt limb	50%
Quadriplegia with power 0-I/ V	100 % with CAA
Paraplegia with power 0-1/ V	100 % with CAA
Hemiplegia with power 0-1/ V	100% with CAA

(b) Balance

Disablement of balance is mainly due to lacunar infarct of cerebellum and vestibular system. This should be always corroborated with clinical profile to rule out malingering.

Frequent falls	80-100%
Walks with broad base	40-50%

(c) Sensation

Loss of sensation in distribution of major nerve	20-30%
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Hemi-anaesthesia	50-60%
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(d) Parietal lobe function

	Apraxia, Agnosia	30-40%
(e)	<u>Cognitive ability-Memory.</u>	
	Global	100%+CAA
	Moderate:	
	(i) Looks after himself independently	80%
	(ii) Looks after himself and family	60%
	(iii) Looks after himself, family and Society	40%
	Mild	20%
(f)	<u>Speech.</u> - Loss of speech can be sensory, motor or combined.	
	Motor Aphasia	50 %
	Sensory Aphasia	50 %
	Combined Aphasia	70 %
(g)	<u>Abnormal movement.</u>	
	It is a manifestation of extra-pyramidal disease.	
	(i) Single abnormal movement - e.g. twitching of eye	20%
	(ii) twitching limb	20-30 %
	(iii) Multiple abnormal movement	50%
	(iv) Multiple abnormal movements amounting to disability in posturing and functioning including speech and inability to walk.	60%
(h)	<u>Cranial Nerves.</u>	
	Facial nerve palsy (one side)	
	Supra-nuclear palsy	50%
	Infra-nuclear palsy	50%

While making assessment for cranial nerves the effect of palsy on the end organs should be observed and to be adjudicated depending on the damages.

(I) Peripheral nerve injuries - not recovered.

Ulnar nerve (rt hand)	60%
Ulnar nerve (lt hand)	50%
Radial nerve (rt hand)	50%
Radial nerve (lt hand)	50%
Median nerve (rt hand)	60%
Median nerve (lt hand)	50%
Sciatica nerve	60%
Common peroneal nerve	50%

(j) Head injury with residual lesions in brain - 100%
with CAA

Head Injuries with moderate to severe neurological deficit 50-100 %

Assessment of Renal Function.

36. Assessment of renal function is done by corroborating clinical profile with biochemical parameters.

(a) <u>Level of serum creatinine</u>	<u>Percentage</u>
1-3 mg	40%
3.1-5 mg	60%
5.1-7 mg	80%
>7 mg	100%
(b) <u>Dialysis</u>	
Dialysis dependent	100% + CAA
(c) Renal transplant cases with immuno-suppressant therapy	80-90%
(d) Loss of one kidney with other kidney normal	50%
(e) <u>Urolithiasis</u>	
Asymptomatic with normal renal function	20-30%
Symptomatic with normal renal	30-40%

Loss of thumb (left)	40
Loss of four fingers (left)	40
Loss of three fingers of one hand	30
Loss of two fingers on either hand	20

Note : Loss of an upper limb stated as right or left - it is understood that right one is the dominant limb; if the left limb is dominant, it should be taken as same as the loss of right limb.

Lower Limbs :

Loss of two limbs	100
Amputation of both feet	100
Amputation of one leg at hip or below hip with stump not exceeding 5 inches	90
Lisfrancs operation both feet	80
Amputation below hip with stump exceeding 5 inches	80
Amputation through both feet proximal to metatarso-phalangeal joint	80
Amputation through one foot proximal to metatarso-phalangeal joint	30
Amputation of leg below middle thigh through knee (knee disarticulation or short below knee stump)	70
Amputation of leg below knee	60
Loss of all toes of both feet through the metatarso-phalangeal joint	40
Loss of all toes of both feet distal to proximal inter-phalangeal joint	20
Loss of all toes of both feet proximal to the proximal inter-phalangeal joint	30
Loss of all toes of both feet proximal to proximal inter-phalangeal joint including amputation through	20

metatarso-pahalangeal joint

Lisfrancs Amputation of one foot 40

Other specific injuries:

Loss of hand and foot 100

Other disabilities :

Loss of viscera- such as kidney Testis, Lungs 50
should be individually assessed not less than

Ventral hernia following missile injury abdomen 50
beyond anatomical repair

Notes :

(a) In assessing the disability for loss of toes, one should not be guided purely by the anatomical loss because the causative factors e.g. injury, effects of cold etc. invariably damage to the adjacent soft tissues and joints of the foot. Partial loss of a few toes may cause severe disability in such cases. Hence assessment must be done taking into consideration the functional impairment in its totality for the locomotor function for foot and limb.

(b) Along with a loss of limb or a part thereof, any dissociated deformity, scarring, loss of muscular power, stiffness etc should be taken into account and the disability percentage enhanced accordingly.

(c) When the wound, injury or illness causing the disability is not entered in the schedule, the disability should be assessed by the Medical Board at the percentage shown in the schedule most closely corresponding to the disability.

Appendix II to Chapter VII

SPECIFIED MINOR INJURIES - PERCENTAGES OF ASSESSMENT FOR
CALCULATING COMPOSITE ASSESSMENT

Injury	Assessment Percentage

Loss of :	
1. Thumb, terminal phalanx	20
2. Fingers :	
Index finger -	
Whole	14
2 phalanges	11
1 phalanx	9
Tip, nail, no bone	5
Middle finger -	
Whole	12
2 phalanges	9
1 phalanx	7
Tip, nail, no bone	4
Ring/little finger -	
Whole	7
2 phalanges	6
1 phalanx	5
Tip, nail, no bone	2
(d) Fixed finger unable to be flexed or extended	scale as above for loss of fingers; or part of fingers affected
3. Toes:	
(a) Great toe- Whole	14
1 joint	3
(b) 1 other toe-whole	3
1 joint	1
© 2 toes excluding Great toe-whole	5
1 joint	2
(d) 3 toes excluding Great toe-whole	6
1 joint	3
(e) 4 toes excluding Great toe-whole	9
1 joint	3
