



## PREVENTION AND TREATMENT OF OCCUPATIONAL DISORDERS THROUGH AYURVEDA

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### ABSTRACT

Multidimensional diseases like Occupational diseases are generally complex to cure and the conventional medical system with its structural approach is still struggling to keep a check as one disease condition leads to another. There is a definite need for an alternate approach to understanding the Psycho-somatic impact on the human body and emerging Occupational diseases and they hope to treat occupational diseases, definitely brightening with the broader approach of *Ayurveda*. The *Ayurvedic* system understands the functioning of the human body as a whole and any disease is understood to be due to an imbalance of *Tridoshas- Vata, Pitta, and Kapha* or can be understood as movement, Transformation, and Growth/Support respectively. *Ayurveda* therapy validates the physical, psychological, and spiritual wellness of an individual. It provides a well-organised system of traditional health care, both in preventive as well as curative spheres - and this has won it wide acclaim. *Ayurveda* offers various methods to manage occupational disorders by following days *dincharya*, *Ratricharya*, *Ratricharya*, *Ritucharya*, *Panchkarma*, or with the help of *Rasayanas*. This communication Emphasizes occupational diseases and hazards in the engineering industry and explains the *Ayurvedic* treatment, dietary regime, *Ayurvedic Dincharya*, and techniques for increasing the general strength of the persons affected by occupational hazards. *Panchkarma* therapies are also described for the treatment and management of these diseases. The most commonly occurring occupational disease is Asthma can be decreased and treated by *Ayurveda* effectively. There can be many more diseases

such as stress, Hypertension, heat stroke, tinnitus, frostbite, dryness of eyes, and pain of different types which may occur in industries and offices and can be decreased up to some extent by *Ayurvedic* medicines and therapies.

**Keywords:** Occupational diseases, *Dincharya*, *Panchkarma*, Rasayanas

## INTRODUCTION

Occupational disorders have not been explained as a separate topic in *Ayurvedic* Texts. But many points related to this topic have been described in many chapters of different *Ayurvedic* Texts. An Occupational disorder results from exposure during employment to conditions or substances that are detrimental to health (such as black lung disease contracted by miners). As *Acharya Charak* has explained in *Charak Samhita* that scholars, servants, prostitutes, and shopkeepers are always patients<sup>[1]</sup>. In Ancient times, most occupations were related to business, service, or farming. Therefore, disorders related to these occupations have been explained in our ancient text books. Protection and management of these disorders are disorders that are the rights of employees. For that, many acts for employees have been made in many countries. In India there is a ministry of labour and employment in Govt, of India, to take care of employees. After the establishment of ILO and WHO, these issues were raised internationally and much work was done regarding this. According to ILO/WHO, Occupational health should aim at the promotion and maintenance of the highest degree of physical, mental, and social wellbeing of workers in all occupations<sup>[2]</sup>. Occupational health is the application of preventive medicine in all employment.<sup>[3]</sup>

*Ayurveda* also emphasizes *swasthya rakshanam* i.e. preventive management and for that *Ritucharya* [seasonal regimen], *Dincharya*[Daily Regimen], *Aharniya* and *Dharniya Vega* [non-suppressible and suppressible urges], *Ahar-Vihar* [dietary and lifestyle plan], etc have been explained in *Ayurveda* according to different occupational disorders.

### AIMS & OBJECTIVES:

1. Understanding and managing occupational diseases through *Ayurveda*.
2. Knowledge about different classes of Occupational Diseases.

3. Treatment of occupational disorders through *Ayurveda*.

### MATERIALS AND METHODS:

A careful perusal of the *Barhatrayees*, the Greater Triad of *Ayurvedic* literature like *Sushruta Samhita*, *Charaka Samhita*, and *Ashtanga Hridaya* along with the contemporary medical textbooks on social and preventive medicine, namely, Park's book of preventive and social medicine, Park's Occupational Health is done.

### DISCUSSION:

#### Occupational health and hazards through the ages:

1. In the past, it was customary to think of occupational health as entirely related to factories and mines; hence the terms 'Industrial health' were used. But modern concepts of occupational health accept all types of employment including mercantile and commercial enterprises, service trades forestry, and agriculture, and include the subjects of industrial accidents, toxicology about industrial hazards, industrial rehabilitation, and occupational psychology.
2. ERGONOMICS (*ergon*=work, *nomos*=law). It involves designing machines, tools, equipment, and manufacturing processes, and lay-out out the places of work and environment in order to achieve greater efficiency of both man and machine. The application of ergonomics has made a significant contribution to reducing industrial accidents and to the overall health and efficiency of workers.<sup>[4a]</sup>
3. The international labour organization (ILO) was started in 1919 as one of the UN agencies. It serves as an international forum for all work-related issues. It is also concerned with international labour standards, social protection, and work opportunities for all.

**Fact about occupational hazards:**

Occupational Health services are non-existent for a majority -85% of Indian workers in the unorganized sector. Of the global 1.9 million cases, 17% are contributed by India. The adverse occupational factors cost 2%-14% of the gross national product.<sup>[5]</sup>

**Prevention of occupational disease<sup>[4b]</sup>**

1. Medical measures like pre-placement examination, periodical examination, medical and health care services, supervision of working environment, maintenance and analysis of records, and health education and counselling.
2. Engineering measures like the design of the building, good housekeeping, general ventilation, mechanization, substitution, dusts, enclosure, isolation, local exhaust ventilation, protective devices, environmental monitoring, statistical monitoring, and research.
3. Legislation like the Factories Act, The Employees State Insurance Act.

**Occupational disease according to Modern:**

Broadly classified into five types. They are Physical, Chemical, Biological, Mechanical, and Psycho-social Hazards.

All these take place through three types of interactions in the working environment.<sup>[4c]</sup> namely:

1. Man, and physical, chemical, and biological agents.
2. Man, and machine.
3. Man, and man.

There are several occupational hazards/diseases and with the advent of industrialization and the

evolution of newer technologies, there's been an increase in the former as well. This article deals with a few selected occupational hazards. In the mining and ceramic industry, workers are exposed to free silica causing silicosis which is characterized by cough, dyspnoea, and chest pain. Rigorous dust control measures and good housekeeping should be followed.<sup>[6]</sup> In the textile Industry, workers are exposed to cotton fibre dust causing byssinosis which is characterized by cough, bronchitis, and emphysema. Dust control should be maintained to prevent it. Employees are exposed to bagasse (sugarcane dust) sugarcane industry causing bagassosis which leads to dyspnoea, cough, and fever. Dust control and personal protection should be maintained.<sup>[7]</sup> Workers are exposed to asbestos dust in the asbestos industry causing asbestosis which is characterized by pulmonary fibrosis and carcinoma. For this, safer types of asbestos should be used and rigorous dust control should be followed.<sup>[8]</sup> The glass industry, rubber industry, and printing and pottery industry cause lead exposure to workers producing gastro-intestinal and neurological problems. EDTA is used as a chelating agent etc. Thus, there are so many occupational disorders in different industries and for that preventive measures should be followed.

Table 1: Occupational Disorders Caused by industry.

S.No.	Industry	Occupational Disorders	Management
1.	Mining and ceramic industry	Silicosis, cough, dyspnoea, and chest pain	Rigorous dust control and good house keeping
2.	Textile Industry	Byssinosis, cough, bronchitis, and emphysema	Dust control
3.	Sugarcane industry	Bagassosis, dyspnoea, cough, and fever	Dust control and personal protection
4.	Asbestos industry	Asbestosis, pulmonary fibrosis, and carcinoma	Safer types of asbestos use, rigorous dust control
5.	Glass, rubber, printing, and pottery industry	Lead poisoning, gastro-intestinal and neurological problems	EDTA is used
6.	Farming and chemical	Skin cancer and dermatitis	Personal protection

	industry		
7.	Coal and construction industry	Accidents of workers	Technology should be upgraded, and workers should be trained

ACCORDING TO *AYURVEDA*: TREATMENT of various Occupational diseases through *Ayurveda*:

- A) Miner's nystagmus: The main symptom is the repetitive involuntary movement of the eyes. It is associated with defects of vision, photophobia, and night blindness. It occurs due to excessive light. If it is due to occupation, it can be controlled to a certain extent with the use of *Saptamrit lauh* and *Mahatripladi ghris*. Ayurvedic treatments like *Shirodhara*, *Tarpanam*, and *Nasyam* will be beneficial for the eyes in this disease.
- B) Noise-induced Hearing loss: This is a very common disease among occupation hazards. This can occur due to exposure to excessively loud noise, for example in the work place or listening to loud music in concerts or on a smart phone or it may be caused by acute high-intensity noise such as gun shots or fireworks. *Vata prakriti* people are more prone to this type of disease. Following Ayurvedic remedies can be used for decreasing the severity of hearing loss, *karnpooran*(filling of the ear with medicated oil decreases *vata* in the ear which improves hearing. *Ashwagandha*, *Sarivadi vati*, and *Giloyghan vati* also can be used.
- C) Heat stroke: Main cause of heat stroke is exposure to excessive heat continuously. A person working in hot temperatures should take a cold diet which has a cooling effect on the body onion, coconut water, coriander, mango, and tamarind will help in decreasing heat stroke. *Chandanadi vati*, *Giloy*, *Amlaki*, *Prawal pishti*, *Akik pishti*, *Jaharmohra pishti*, *Kamdudha ras*, and *Mukta pishti*, etc are cooling medicines according to *Ayurveda*.
- D) Musculoskeletal problems: These problems occur due to (1) excessive load on the muscles, ligaments, tendons, and bone and (2) insufficient circulation to the musculoskeletal system. (3) continuous use of fingers of the dominant hand in da-

ta entry. These may occur at the neck, forearm, wrist, fingers, back, and knee. Massage with *Mahanarayan tailam* is beneficial when pain is there and when there is no pain sesame oil is good. *Yograj guggul*, *Giloyghan wati*, *Ashwagandha*, *Godanti*, *Nirgundi*, etc can be used for pain in musculoskeletal disease.

- E) Neurological disorders: The nervous system is often a frequent target of toxins and can cause serious issues if one is exposed to harmful contaminants. Frequent headaches, fatigue, and light headedness are common symptoms of nerve damage and can also illustrate numbness and loss of control in the limbs. Stress can also be due to neurological disorders.<sup>[9]</sup> *Withania somnifera* can be used in all patients suffering from occupational hazards because this plant increases adaptability. It decreases stress levels, which are usually present in every occupation, and increases the inherent strength of a person because it is a *Rasayana* according to ayurveda.<sup>[10]</sup>

**Stress-related injuries:** Emotional stress injuries can be difficult to prove, much less win, because one must show that the stress has come from work and not from his or her personal life. Stress can result from many sources such as being overworked, having an abusive boss, or dealing with difficult co-workers/employees. *Shirodhara* as explained earlier is very helpful in treating stress-related occupational hazards. Many plants (*Brahmi*, *Shankh Pushpi*, *Giloy*, *Yasthimadhu*) are available in *Ayurveda* which are very good brain tonics and helpful in stress-related disorders without any side effects. Diets like pumpkin, desi ghee, etc, are very good for the brain. So, by doing these minor modifications occupational hazards can be decreased to some extent.

- F) Industrial Asthma:  
Asthma can occur when workers are exposed to certain airborne toxins during their workday. Often, workers who lay cement or frequent construction sites might be harmed by breathing potassium di-

chromate. This form of asthma can be extremely serious if the individual continues to breathe these harmful substances on a long-term basis. An occupational disease, on the other hand, is when an employee develops a sickness because of prolonged exposure to something that causes him or her to become ill, which could be something like asbestos fibres or dust that collects in the lungs. Regular *Vamana* ther-

apy is very good for occupational asthma. In this vomiting's induced by giving some medicine. Before that, some medicated ghee is given. After vomiting a particular diet is followed for a particular period. This can be controlled by some *Ayurvedic* medicines and dietary changes.

Table 2: OCCUPATIONAL DISORDERS DESCRIBED IN AYURVEDA

S.No.	Cause	Occupational Disorders	Management
1.	Sedentary lifestyle	<i>Prameh</i> (diabetes)	Walking and consumption of <i>Katu</i> , <i>Tikta</i> , and <i>Kashay rasa</i> <sup>[11]</sup>
2.	Always walking	<i>Padadari</i> or <i>Vipadika</i> (cracks)	<i>Stravedhan</i> , <i>Swedan</i> , <i>Abhyanga</i> , and <i>Lepana</i> of medicated <i>ghrit</i> <sup>[12]</sup>
3.	Regular contact with contaminated water or mud	<i>Alas</i> (T.pedis/candidiasis)	Washing the feet with <i>kanji</i> and then <i>lepana</i> of <i>kalka</i> (paste)of <i>neem</i> , <i>til</i> , <i>kasis haritaki</i> and <i>raktamokshan</i> (bloodletting) <sup>[13]</sup>
4.	Lack of physical work and inappropriate diet	<i>Sthaulya</i> (obesity)	<i>shilajatu</i> , <i>sudh guggulu</i> , <i>Sudh gomutra</i> , <i>trifla churna</i> , <i>rasanjan</i> , <i>shahad</i> , <i>yav mung</i> is used. Regular exercise and use of <i>lekhaniya vasti</i> <sup>[14]</sup>
5.	Excessive physical exertion	<i>Karshya roga</i> (Asthenic body)	<i>Kshirkakoli</i> , <i>ashwagandha</i> , <i>vidarikand</i> , <i>satawar</i> and <i>vrihan vasti</i> <sup>[15]</sup>
6.	Excess physical work, fighting against a stronger man, falling from a tree	<i>Antravidhi</i> (inguinal hernia)	<i>Agnikarma</i> (cauterization) and <i>shastra karma</i> (surgery) <sup>[16]</sup>
7.	Regular sitting on a hard seat, horse riding, camel riding	<i>Arsh</i> (piles)	Use of <i>Takrarist</i> , <i>Abhyarist</i> , <i>Dantyarist</i> <sup>[17]</sup>
8.	Excessive workload	Insomnia and tension	<i>Pranayama</i> and <i>Shirodhara</i>
9.	Working too much on the computer	<i>Shuskashi</i> (dry eye syndrome)	<i>Akshitarpan</i> (eye lubrication)

## DISCUSSION

Every occupation has its own challenges, but it is not possible for everyone to quit the occupation. Therefore, one should do his or her occupation following preventive measures for minimizing the challenges. In ancient times, there were different occupations and occupational disorders were also different. But in the present time, due to the development of technology, many occupational disorders have emerged causing different occupational disorders. Nowadays, farmers, businessmen, defence personnel, labours, etc have

their own occupational disorders. Preventive management is always better than curative management. *Ayurveda* also emphasizes preventive management. Therefore, it is better to prevent occupational disorders to treat them. A person who does excess physical work should take rest properly and take a proper diet. A person who does excess mental work should do physical exercise daily. Yoga is beneficial and mental working persons. Dust is the main problem in many industries. Advance technology should be used to produce less dust and employees should be given a high-quality masks to prevent dust. The temperature

of the working place should be maintained by using technology in very hot and cold areas. Rules of *Din-charya*, *Ritucharya*, *Adharniya* and *Dharniya Vega*, *Ahar-Vihar*, etc should be followed to prevent the diseases. If a person has an occupational disorder, then its management should be done properly, which has been mentioned in this article.

## CONCLUSION

In this paper, we have elaborated on the use of *Ayurveda* for decreasing the intensity of occupational hazards by changing the lifestyle and dietary pattern of the individual involved in different types of occupation. We should try to prevent occupational disorders by using *the Ayurvedic* methods mentioned above. *Panchkarma* therapies are also explained to control occupational hazards. Although occupational hazards cannot be totally cured because causative factors cannot be eliminated some help can be given to individuals suffering from occupational hazards by using these therapies, dietary advice, and lifestyle changes. As there has been no significant research work in *Ayurveda* regarding occupational health till now. Therefore, there is a big scope of research in this field in *Ayurveda*.

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