

7 Diseases in relation to water

From the view point of public hygiene and epidemiology water is not only a blessing but also a horror (particularly the first). For in the absence of water virtually every form of life is impossible and man cannot do without it, but this life supporting water can contain all kinds of life that competes with man or threatens him.

At least 130 diseases exist that are caused by micro organisms that are related to (a lack of) water. David Bradley published a scheme in 1974 that divides these diseases into four categories. This classification was based mainly upon the epidemiological situation in developing countries, where often an adequate sanitary infra structure is lacking. There frequently is *too little* water at *too large* a distance and is its *quality* dubious.

Table A: The scheme by Bradley (1974) of four groups of infectious diseases that are linked with (lack of) water.

Term	Characteristic	Prevention
Water borne	Passively transmitted by water	improving quality of drinking water and preventing the use of water from suspected sources
Water washed	Caused by shortage of water for personal and household hygiene	1. more water 2. better access to water 3. better personal hygiene
Water based	The causal organisms undergo part of their development in an invertebrate aquatic intermediary host	1. improving the sanitary structure 2. elimination of vectors 3. preventing contact with contaminated water
Water related (insect vectors)	Vectors are insects that spend part of their life cycle in or near water	1. destruction of breeding areas of insects 2. diminishing the necessity of visiting these areas

Table B: More details about Bradley's system.

Term	Transmission	Examples
Water borne	often fecal-oral a. low infectious dose b. high infectious dose	a. shigellosis (bacillary dysentery) b. cholera
Water washed	a. skin and eye infections b. other	a. scabies, trachoma b. spotted fever
Water based	a. penetration of the skin b. ingestion	a. schistosomiasis (bilharzia) b. dracontiasis
Water related	a. multiplying at the water b. stinging or biting at the water	a. malaria b. onchocerciasis ('river blindness')