Infections Associated with Leisure and Sports Activities

The risk of infection that is associated with occupations can, and does, extend to certain leisure activities.

Water-associated leisure activities

Water has long been recognized as an important vector for the spread of infection, and contact with it during recreation and sport often presents a high risk. Infections associated with swimming pools, water parks, water play areas, spas and aquaria, as well as lakes, rivers and the sea have been described.

Swimming pools
- Often as the result of inadequate chlorination and poor hygiene
- Infection includes cryptosporidiosis, giardiasis, shigellosis, E. coli, noroviruses, polio, ringworm and verruca
- Pseudomonas aeruginosa contracted in swimming pools causes ‘Swimmer’s Ear’
- Use of water slides and inflatables can result in Pseudomonas folliculitis in children.

Jacuzzis, footbaths and spas
- Infections acquired in these is usually a result of poor hygiene and lack of cleaning, particularly the drain
- Pseudomonas folliculitis
- Staphylococcus aureus skin infections and rarely Legionnaires’ disease have all been associated with Jacuzzis.
- Infections resulting from the use of ‘Garra Rufa Fish’ to give ‘Fish pedicures’ include Mycobacterium marinum, M. fortuitum and M. chromogenicum cellulitis, loss of nails and toes have all been reported
- Outbreaks of legionnaires’ disease and Pseudomonas have been associated with spas

Sea water-associated infection

- Infections with Halolphilus, Vibrio spp. from sea water can cause severe consequences
- V. alginolyticus can cause ‘Swimmer’s Ear’
- Wounds contracted on beaches can become infected with V. alginolyticus as well as V. vulnificus
- Fatalities have occurred from infections with V. vulnificus

Infections in musicians

Although the history of diseases in musicians has traditionally been associated with drug and alcohol abuse, other causes have been recorded throughout history.

Bagpiper’s lung
- Deaths have been recorded due to hypersensitivity pneumonitis caused by the inhalation of fungal spores from fungi colonizing the bag part of the instrument
- Similar conditions have been reported involving saxophone and trombone players
- These occurrences highlight the need for regular cleaning of instruments.

Imported African drums
- The first recorded human case of encephalitis due to the release of spores from the skin (tattoo) of a drum occurred in Florida, USA, in 1974

Hill walkers/climbers
- Walkers and climbers are prone to infection, particularly of the feet following long periods in the wet, due to skin damage caused by blisters and wounds
- Dermatophyte infections (athlete’s foot, nail infections) are common
- Bacterial infection of developing blisters, chafe and wounds
- There is the risk of Lyme disease in areas where deer are present
- Camping in areas contaminated by cattle farms presents a risk of infection with E. coli O157

Herpes gladiatorum
- First described in the 1990s
- Caused by herpes simplex type 1, but type 2 can occur
- Associated with contact sports such as: Rugby – scrotum or herpes rugosum
- Wrestling – wrestlers herpes or mat pax
- 1991: Large outbreak among high school wrestlers with 60 of 175 of them affected:
  - on head 72%, extremities 42%, and trunk 28%
- Other infections include:
  - impetigo caused by Staphylococcus pyogenes and/or Staphylococcus aureus
  - ringworm, primarily Tinea capitis and Tinea corporea
  - shingles may spread varicella zoster virus to susceptible individuals.

Athletes
- Athletes are at particular risk of pityriasis rosea, a skin infection associated with pityriasis rosea on the soles of the feet.
- Eczema organum have been identified as various Corynebacterium, Dermatophytes, Hymenoptera, Arthropods and Streptococci.

Canoes and rowers
- Recreational water present many risks to users
- Leptospirosis (rat’s disease and related) as a result of contact with rat urine
- Hepatitis A, enteroviruses including polio and norovirus have all been reported
- Bacterial gastrointestinal infections from sewage-contaminated waters
- In tropical rivers the risk of schistosomiasis is high
- The toxins produced in warm weather by blooms of cyanobacteria (blue-green algae) can cause eye irritation, dermatitis and joint/muscle pain, or, more seriously, gastroenteritis, pneumonia, liver damage and certain neurological conditions.

Fish tank granuloma
- The fish tank in your dentist waiting room is designed to have a soothing influence, but it may hold hidden dangers
- Mycobacterium marinum (formerly M. balneum) was first isolated from a fish in 1976
- 1981: Found to cause infections in humans
- Large outbreaks of infection have been associated with badly maintained swimming pools
- 1965: Infection with this organism was first associated with a fish tank, and the condition termed ‘fish tank granuloma’
- Lesions appear mainly on the hands
- M. marinum does not grow at 37°C, so this may account for it inflicting predominantly on the cooler parts of the body
- Recognized by the presence of superficial cutaneous lesions in a dermatophytic distribution
- Occupational hazard for pet shop worker and home aquarium keepers
- Marine biologists and professional fishermen are also at risk
- Also known as aquarium granuloma or swimming pool granuloma.

A medical bagpiper carved on a church in Spain

Despite their soothing influence, fish tanks hold hidden dangers.

Occupational Health: Work and Play Can Make You Sick
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