

Alcohol in Immune Defense

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Alcohol - the world's largest and most commonly consumed drug! The impact of alcohol on your body starts almost instantly (from the first sip only). An occasional glass of wine doesn't seem like a concern to most of us, however, the cumulative effects of occasional and binge drinking can take you for a ride [1].

Clinicians have long observed an association between excessive alcohol consumption and adverse immune-related health effects such as susceptibility to pneumonia. In recent decades, this association has been expanded to a greater likelihood of acute respiratory stress syndromes (ARDS), sepsis, alcoholic liver disease (ALD), and certain cancers; a higher incidence of postoperative complications; and slower and less complete recovery from infection and physical trauma, including poor wound healing [2].

Increasing evidence suggests that light to moderate amounts of polyphenol-rich alcoholic beverages like wine or beer could have health benefits. Scientists have long debated the effects of alcohol on immune function, showing on the one hand, that high doses of alcohol consumption can directly suppress a wide range of immune responses, and that alcohol abuse is associated with an increased incidence of a number of infectious diseases. On the other hand, moderate alcohol consumption seems to have a beneficial impact on the immune system compared to alcohol abuse or abstinence. Therefore, the link between alcohol consumption, immune response, as well as infectious and inflammatory processes remains not completely understood. With this in mind, it is important to realise that other factors, unrelated or indirectly related to immune function, like drinking patterns, beverage type, amount

of alcohol, or gender differences, will affect the influence that alcohol consumption may have on the immune system. This review summarises published data describing the effects that light to moderate amounts of polyphenol-rich beverages like wine or beer seem to have on immunity in healthy adults [3,4].

Excessive alcohol consumption has a negative impact on both aspects of the immune system. The body repairs injury and fights infection through a process of inflammation, which is its first response. The inflammation response signals to the immune system that something is wrong and needs to be addressed. Excessive alcohol can interrupt this inflammation signal and the body may not react to the injury or disease, resulting in increased harm and lowered immunity. Consequently, heavy drinking can result in a 3-7 times higher vulnerability to serious conditions, such as pneumonia developing as a result of common respiratory tract infections.

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