

# Herxheimer reaction

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The **Herxheimer reaction** (also known as **Jarisch-Herxheimer** or **Herx**) occurs when large quantities of toxins are released into the body as bacteria (typically Spirochetal bacteria) die, due to antibiotic treatment or rapid detoxification.

Typically the death of these bacteria and the associated release of endotoxins occurs faster than the body can remove the toxins via the natural detoxification process performed by the kidneys and liver. It is manifested by fever, chills, headache, myalgia (muscle pain), and exacerbation of skin lesions. Duration in syphilis is normally only a few hours but can be much longer, up to months or years, for other diseases. The intensity of the reaction reflects the intensity of inflammation present.

The Herxheimer reaction has shown an increase in inflammatory cytokines during the period of exacerbation, including tumor necrosis factor alpha, interleukin-6 and interleukin-8.<sup>[1][2]</sup>

## History

Both Adolf Jarisch,<sup>[3]</sup> an Austrian dermatologist, and Karl Herxheimer,<sup>[4]</sup> a German dermatologist, are credited with the discovery of the Herxheimer reaction. Both Jarish and Herxheimer observed reactions in patients with syphilis treated with mercury. The reaction was first seen following treatment in early and later stages of syphilis treated with Salvarsan, mercury, or antibiotics. It is seen in 50% of patients with primary syphilis and about 90% of patients with secondary syphilis.<sup>[*citation needed*]</sup>

The reaction is also seen in other diseases, such as borreliosis (Lyme disease<sup>[5][6]</sup> and tick-borne relapsing fever<sup>[7]</sup>), bartonellosis, brucellosis, typhoid fever, and trichinellosis and Q fever.

## References

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