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[Visit the ILUSTRA Website](#)



What is ILUSTRA?

ILUSTRA is an innovative, easy-to-use genetic test that identifies individuals with an increased risk for severe and progressive periodontitis, due to a genetic predisposition to over-produce Interleukin-1 (IL-1), a key mediator of inflammation.

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Role of Genetics

The IL-1B gene variation causes overproduction of IL-1. In the presence of bacterial plaque, this has been shown to create a heightened inflammatory response. This inflammation is linked to the destruction of soft tissue and bone.

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Managing Chronic Inflammation

We are leading the way in developing and deploying intelligent interactive programs to make a meaningful impact on managing chronic diseases.

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Interleukin's IL-1 genetic patterns can differentiate individuals at the clinical level in terms of responses to inflammatory challenges or IL-1 blocking drugs.

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What is ILUSTRA?

ILUSTRA is an innovative, easy-to-use genetic test that identifies individuals with an increased risk for severe and progressive periodontitis, due to a life-long genetic predisposition to over-produce Interleukin-1 (IL-1), a key mediator of inflammation. Such individuals may benefit from enhanced dental care to prevent or treat periodontitis and thereby lower their systemic inflammatory burden. Targeted management of systemic inflammation has been shown to help manage several chronic diseases, including type 2 diabetes and coronary artery disease.

- 🔑 3 in 10 people tend to overproduce inflammation. This tendency can lead to more serious conditions like: Gum Disease, Heart Disease and Diabetes.
- 🔑 Early identification is important, so that you can get started with the right kind of preventive care.
- 🔑 Discover your genetic predisposition to overproduce inflammation... so you can take steps to help control it.

Your employer will NOT know the results of your test. Your results are completely confidential and protected by federal law.

The ILUSTRA test is made available to employees in covered health plans under the supervision of a licensed dentist or physician, and the results provide important information to dental professionals for

assessing prevention and treatment options for their patients. The ILUSTRA test is run solely in Interleukin's CLIA-certified lab in Waltham, MA.

Visit the [ILUSTRA](#) website for more information.

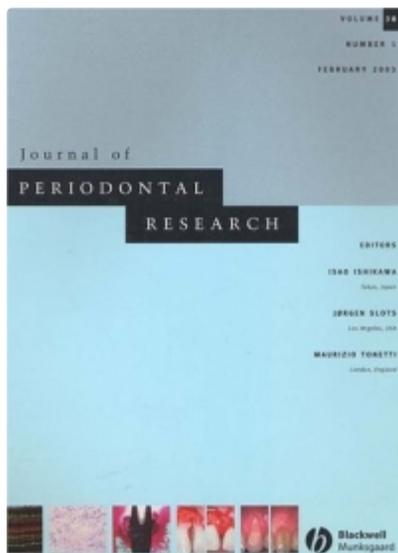
Role of Genetics in Periodontal Disease

Genetic variation, now identifiable with ILUSTRA, is one of the most prevalent risk factors for severe periodontal disease.¹ The IL-1B gene variation causes overproduction of IL-1. In the presence of bacterial plaque, this has been shown to create a heightened inflammatory response, which is linked to the destruction of soft tissue and bone.



“Patient Stratification for Preventive Dental Care” (Giannobile *et al.*)

A landmark clinical study from the University of Michigan, published in the Journal of Dental Research, has brought important focus on genetics as one of the most common risk factors for periodontitis. By examining claims data from 5,117 patients without periodontitis throughout a 16 year period and conducting genetic testing, researchers determined that patients with genetic variations of the IL-1 genotype, or one or more other risk factors examined, were at significantly increased risk for tooth loss and therefore require more preventive dental care. The IL-1 genetic variation was the single most prevalent risk factor..



“Association of interleukin-1 gene variations with moderate to severe chronic periodontitis in multiple ethnicities” (Wu *et al.*)

ILUSTRA has been validated in multiple ethnic populations and adds value beyond standard predictive risk factors². In the study, published in the Journal of Periodontal Research, the results from multiple ethnic groups further validated the association between periodontitis and the interleukin-1 beta (IL1B) composite genotype pattern, a specific genetic profile that can be elucidated by Interleukin’s ILUSTRA genetic risk test. In addition, the study results demonstrated that detection of the IL1B variations provided added value in the prediction of moderate to severe periodontitis above and beyond the risk attributable to smoking and diabetes alone..



“Influence of Obesity on Periodontitis Progression is Conditional on IL-1 Inflammatory Genetic Variation” (Wilkins *et al.*)

Published in the *Journal of Periodontology*, the study, which evaluated the influence of IL-1 genetic patterns on periodontal progression, was conducted on 292 participants from the Department of Veterans Affairs Dental Longitudinal Study. The analysis found significant interactions between IL-1 genetic variations and obesity-related traits in predicting periodontal disease progression³. Participants who were both obese and IL-1 test positive were 70% more likely to experience periodontal disease progression than those without these risk factors.



Impact of Periodontal Therapy on General Health Evidence from Insurance Data for Five Systemic Conditions (Jeffcoat *et al.*)

In an analysis of insurance claims data from over 300,000 patients, treatment of periodontitis was associated with subsequent reduced cost of medical care for those with selected chronic diseases, including type 2 diabetes (T2DM), coronary artery disease, stroke, and adverse pregnancy outcomes. The annual per patient decrease in medical costs over the three years following periodontitis treatment were: \$2,840 for T2DM, \$5,681 for stroke, and \$1,090 for coronary artery disease.

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