A Report on IL-17 Homozygosity Diseases and Symptoms

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When we discuss **homozygosity** for the **overactive variant** of IL-17 (most commonly the **AA genotype** of the *rs2275913* SNP), we are looking at an immune system that is "hyper-responsive."

While this genetic profile makes you an expert at fighting off skin and fungal infections, it significantly increases the risk of the body attacking its own tissues—specifically the skin, joints, and digestive tract.

Primary Diseases Linked to Overactive IL-17

Being homozygous for these "high-producer" variants is strongly associated with the **IL-23/IL-17 axis**, which is the primary driver for several chronic inflammatory conditions:

1. Psoriasis & Psoriatic Arthritis

This is the most common association. High IL-17 levels signal skin cells (keratinocytes) to multiply far too quickly, leading to the hallmark symptoms of psoriasis.

- **Symptoms:** Raised red patches with silvery scales (plaques), extreme itching, and skin soreness.
- **Joint Impact:** In about 30% of cases, this progresses to Psoriatic Arthritis, causing "sausage digits" (dactylitis) and stiff, painful joints.

2. Ankylosing Spondylitis (Axial Spondyloarthritis)

IL-17 is a key cytokine in the inflammation of the spine and the areas where tendons attach to bone (entheses).

- **Symptoms:** Chronic lower back pain that *improves* with movement but gets worse with rest, morning stiffness lasting over 30 minutes, and eventual fusion of the vertebrae in severe cases.

3. Rheumatoid Arthritis (RA)

Overactive IL-17 variants (specifically homozygous variants of *IL-17F*) are linked to more aggressive forms of RA.

- **Symptoms:** Symmetrical joint swelling (both hands or both knees), fatigue, and a high risk of bone erosion if the inflammation isn't managed.

4. Inflammatory Bowel Disease (IBD)

The role here is complex. While some IL-17 is protective for the gut lining, the "overactive" variant can lead to an exaggerated inflammatory response in the intestines.

- **Symptoms:** Persistent diarrhea, abdominal cramping, and bloody stools (typical of Crohn's or Ulcerative Colitis).

Clinical Symptoms of "Hyper-IL-17" Activity

If you are homozygous for an overactive variant, your "symptom profile" generally revolves around **exaggerated inflammation**:

System	Symptoms of Overactivity

Skin	Rapid skin cell turnover, chronic redness, "pitting" in fingernails, or dandruff that doesn't respond to typical treatments.
Joints	"Deep" aching in the sacroiliac joints (hips/lower back) and swelling in the small joints of the hands or feet.
Eyes	Increased risk of **Uveitis** (inflammation of the middle layer of the eye), leading to redness, pain, and light sensitivity.
Systemic	General "inflammaging"—low-grade fatigue and a feeling of being "run down" as the body uses energy to maintain a state of high immune alert.

The "Upside": High Resistance

It is worth noting that nature kept these overactive variants in the gene pool for a reason. Homozygosity for high IL-17 production typically grants:

- **Superior Fungal Defense:** You are statistically much less likely to suffer from chronic yeast infections or oral thrush.
- **Bacterial Clearance:** Your body is very efficient at recruiting neutrophils to "wall off" and kill *Staphylococcus* and other skin-surface bacteria.

Summary for a Report

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In a clinical or personal report, **IL-17 overactive homozygosity** should be flagged as a **genetic predisposition toward Autoimmune/Autoinflammatory syndromes**. It suggests that the "off-switch" for the Th17 immune response is less effective, making the individual a candidate for proactive monitoring of joint health and skin integrity.