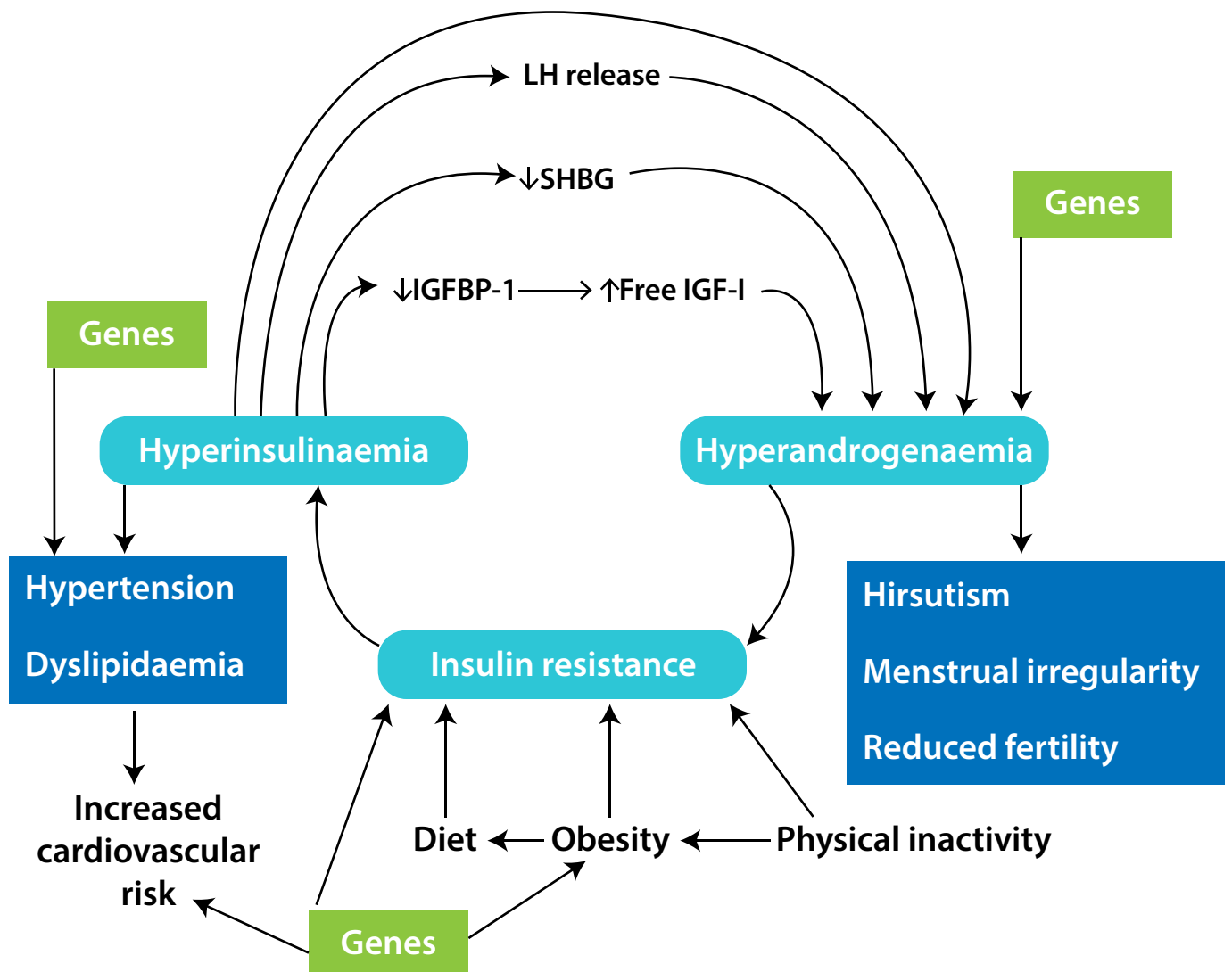


Hyperandrogenism and Insulin Resistance in Women

Upper range and elevated salivary androgen (DHEA and/or testosterone) levels in women are often associated with evolving or established insulin resistance. These levels elevate prior to overt changes in bloodwork, serving as a "red flag" for practitioners that the body may be struggling to maintain balanced blood sugar levels. This occurs because elevated insulin levels in the blood lead to:

- Decreased sex hormone binding globulin production by the liver (resulting in higher bioavailable androgen levels)
- Direct increased ovarian production of androgen
- Indirect increase in ovarian production of androgen by disordered release of FSH and LH
- Binding of receptors in adrenal cortex (zona reticularis), stimulating androgen production
- Inhibition of hepatic production of insulin-like growth factor binding-1



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