Nutrient Correlations

Deficiencies Correlated with Disease Conditions

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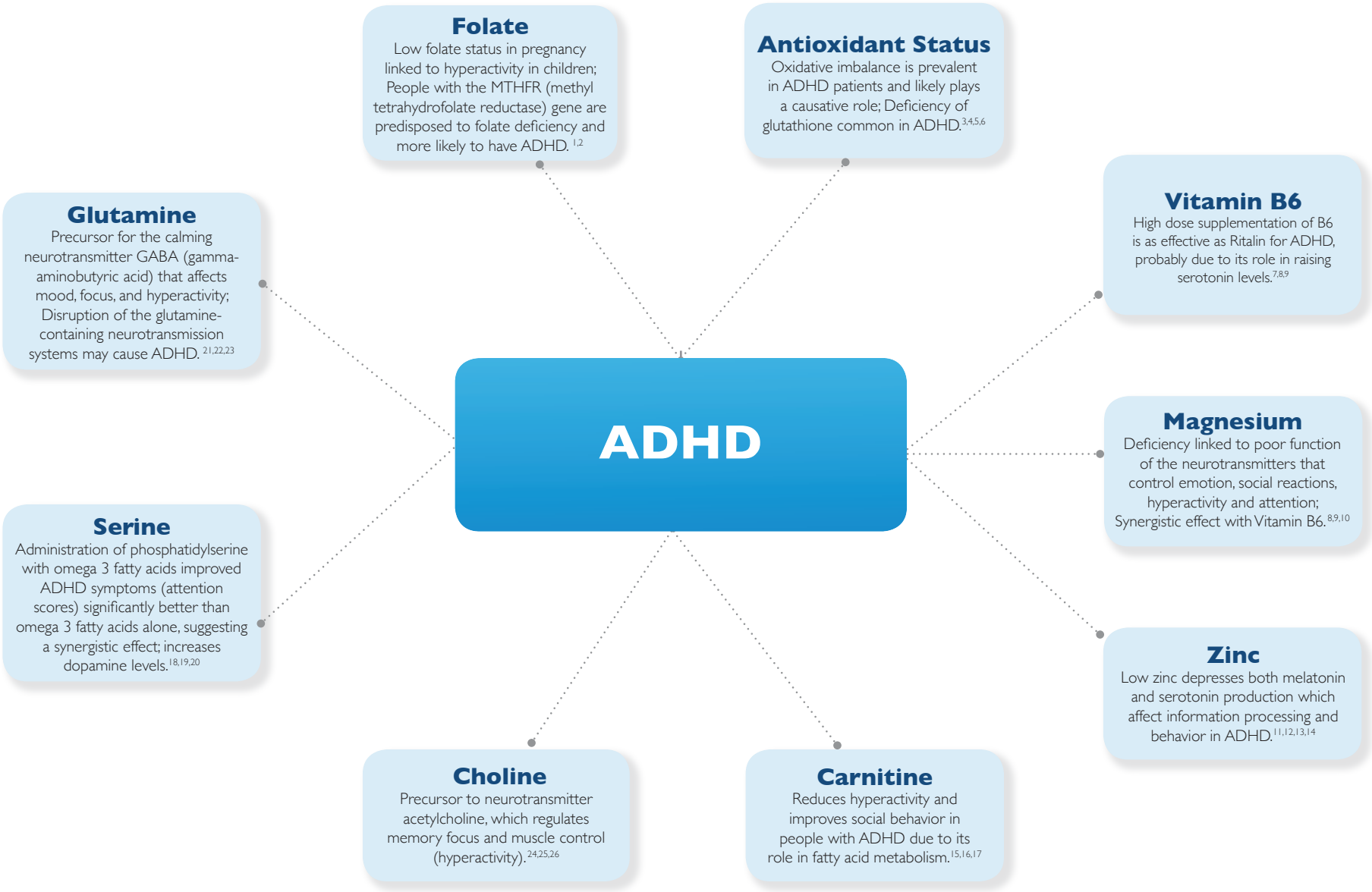

ADRENAL FATIGUE

Vitamin B1,B2,B3
The adrenal glands are extremely metabolically active due to the constant production of hormones—B vitamins regulate and support this process.[1,2]

Vitamin B5
Sometimes called the "anti-stress" vitamin, B5 (pantothenic acid) can reverse damage to overworked adrenal glands; Deficiency results in an inability to respond appropriately to physical or emotional stress.[1,33,34]

Vitamin C
Adrenal glands have the highest vitamin C of any tissue in the body; Supports adrenals and reduces cortisol; Depletion is very common in adrenal fatigue.[1,2,3,4]

Serine
Dose-dependently buffers the adrenal response to physical and mental stress, thus protecting the body and mind against cellular damage from chronically high cortisol.[1,5,6]

Carnitine
May reduce cortisol levels by keeping the stress response (also known as HPA activation*) in check.[7,8,9]

*HPA= hypothalamic-pituitary-adrenal

Vitamin B6
Chronic stress can deplete B6, which is an important cofactor to several enzymes found in healthy adrenal glands.[1,32]

Magnesium
Regulates the system (called the HPA axis) that controls physical and psychological reactions to stress.[10,11]

Vitamin B12
Shifts the circadian rhythm of cortisol secretion back to normal, thus alleviating one of the major symptoms caused by adrenal fatigue—insomnia.[1,30,31]

Selenium
Cofactor to a very potent enzyme (glutathione peroxidase) that restores adrenal function.[2, 12, 13, 20]

Vitamin A
Reduces damage caused by stress hormones; Deficiency causes structural changes to adrenal glands that compromise its function.[27,28,29]

Coenzyme Q10
Secretion of adrenal hormones will influence Coq10 levels, which are often low in people with adrenal fatigue (hypoadrenalism).[14,15]

Glutathione & Cysteine
Adrenal glands need high amounts of this antioxidant (and its precursor cysteine) to prevent stress-induced or age-related adrenal fatigue.[2,20,26]

Vitamin D
Actually a hormone, vitamin D is the precursor to steroid hormones made by adrenals such as DHEA, cortisol and aldosterone.[24,25]

Vitamin E
Protects against age-related decline in adrenal function; The ability to synthesize key steroid hormones in the adrenals is greatly diminished by vitamin E deficiency.[2,20,23]

Lipoic Acid
Breaks down adrenal hormones so they no longer cause the "fight or flight" feelings associated with stress.[21,22]

Zinc, Copper,Manganese
As the adrenals make hormones, they are subjected to massive amounts of damaging free radicals, which are neutralized by a family of enzymes (superoxide dismutase) that requires these minerals; Deficiency in even one mineral cofactor may impair the adrenal glands' ability to make hormones.[2,19,20]

Inositol
Sometimes called vitamin B8, inositol regulates adrenaline-induced stress responses; Cortisol increases the body's inositol requirement.[16,17,18]

Additional nutrients can affect adrenal function. This list is non-exhastive.

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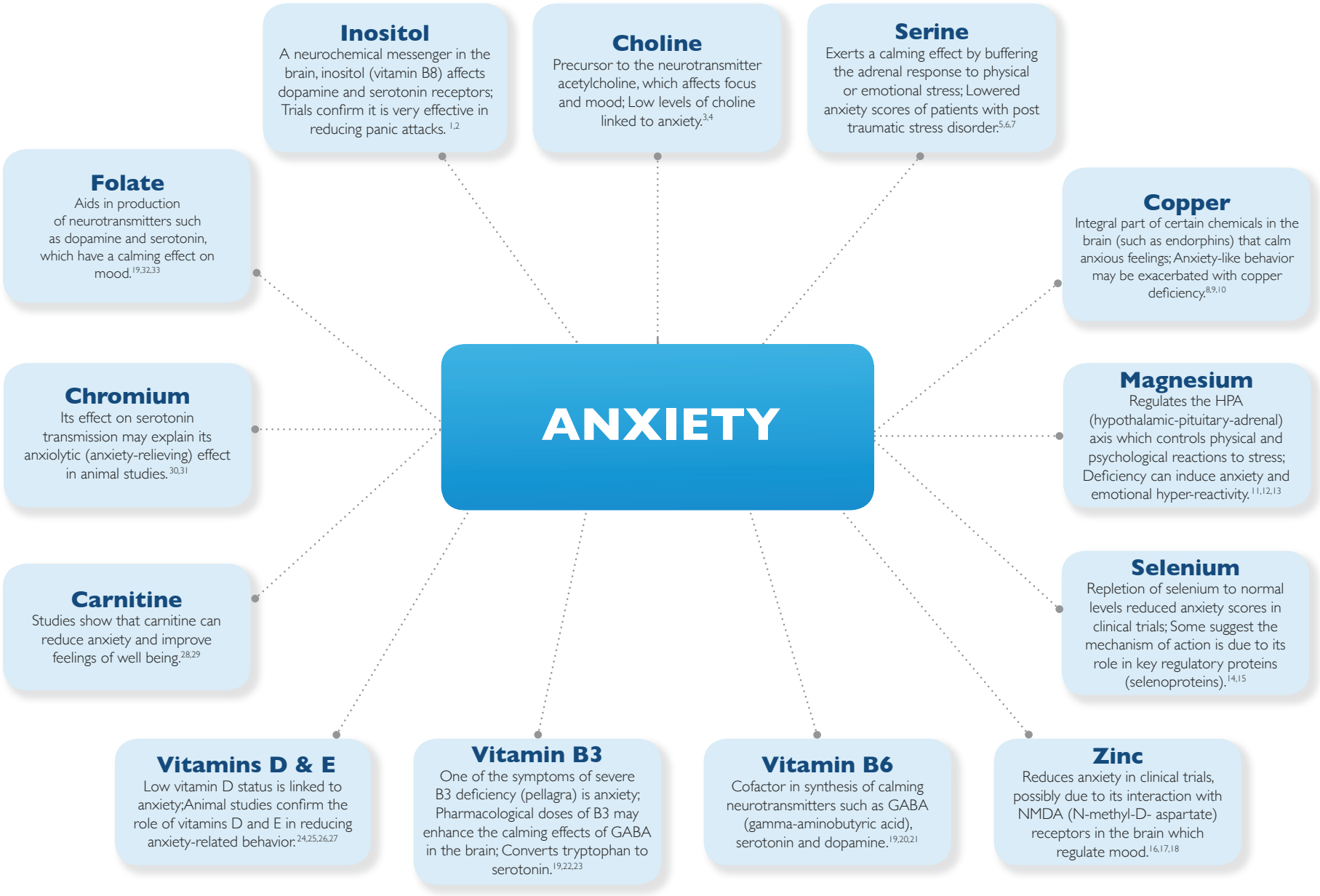

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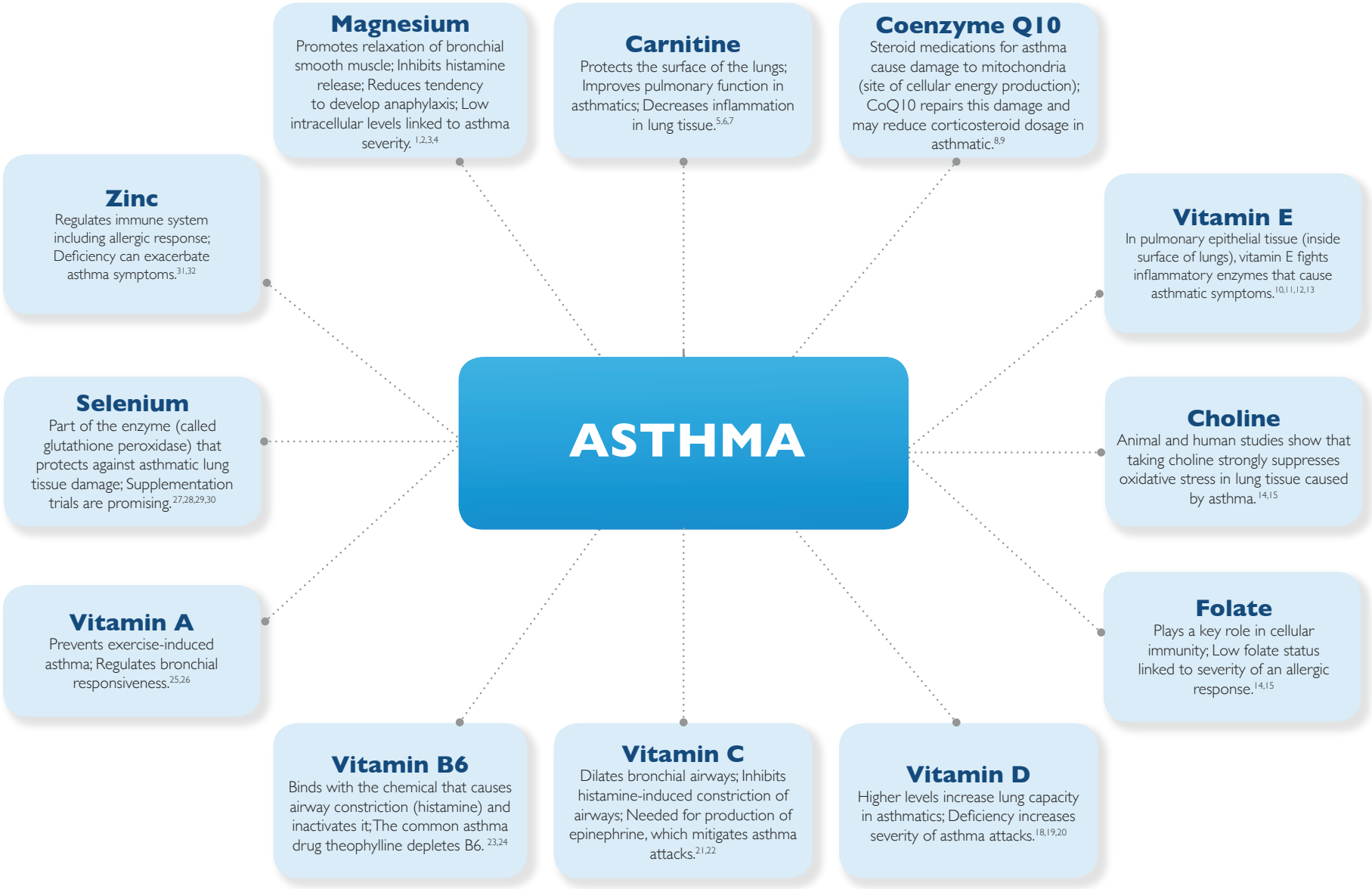

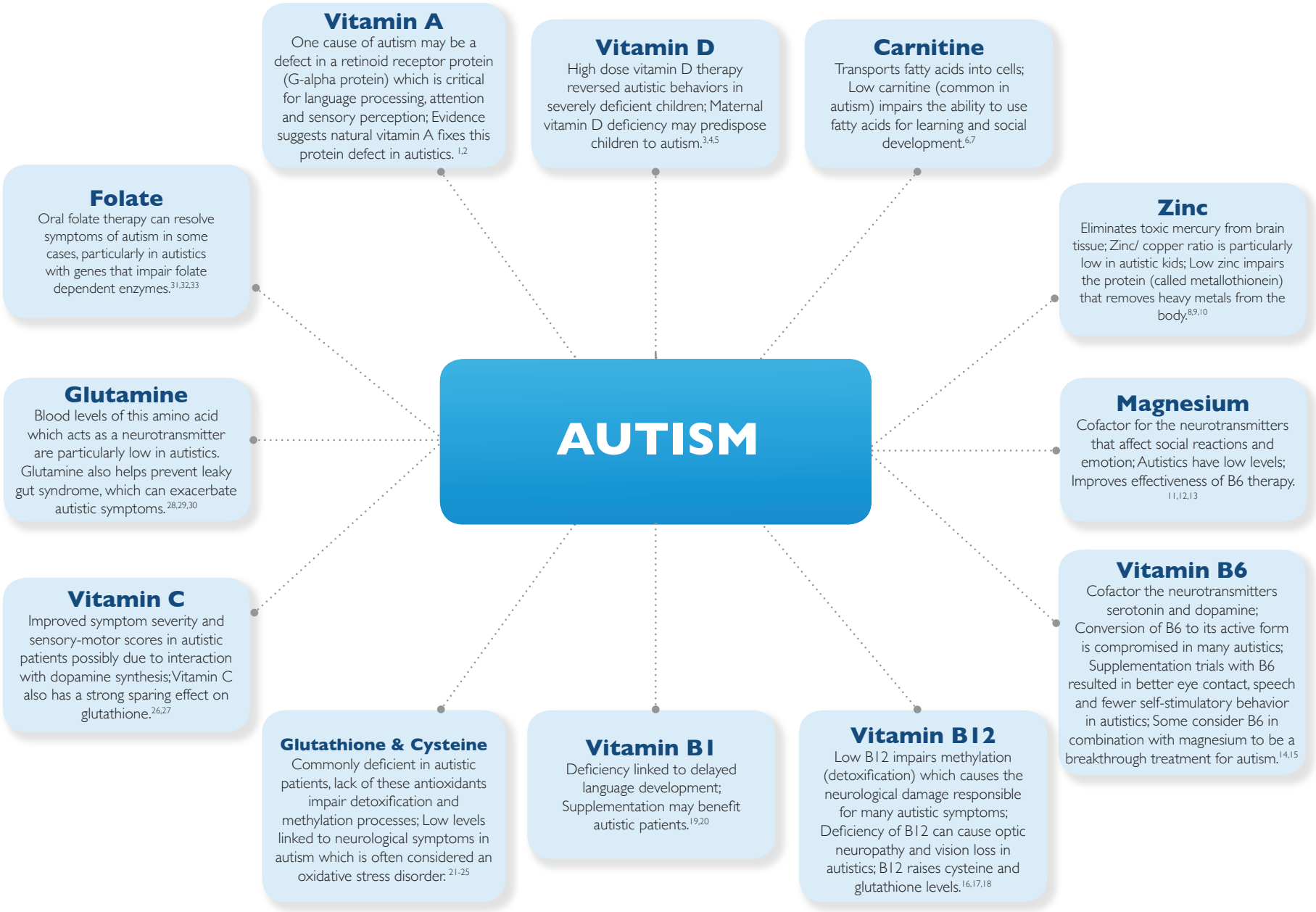

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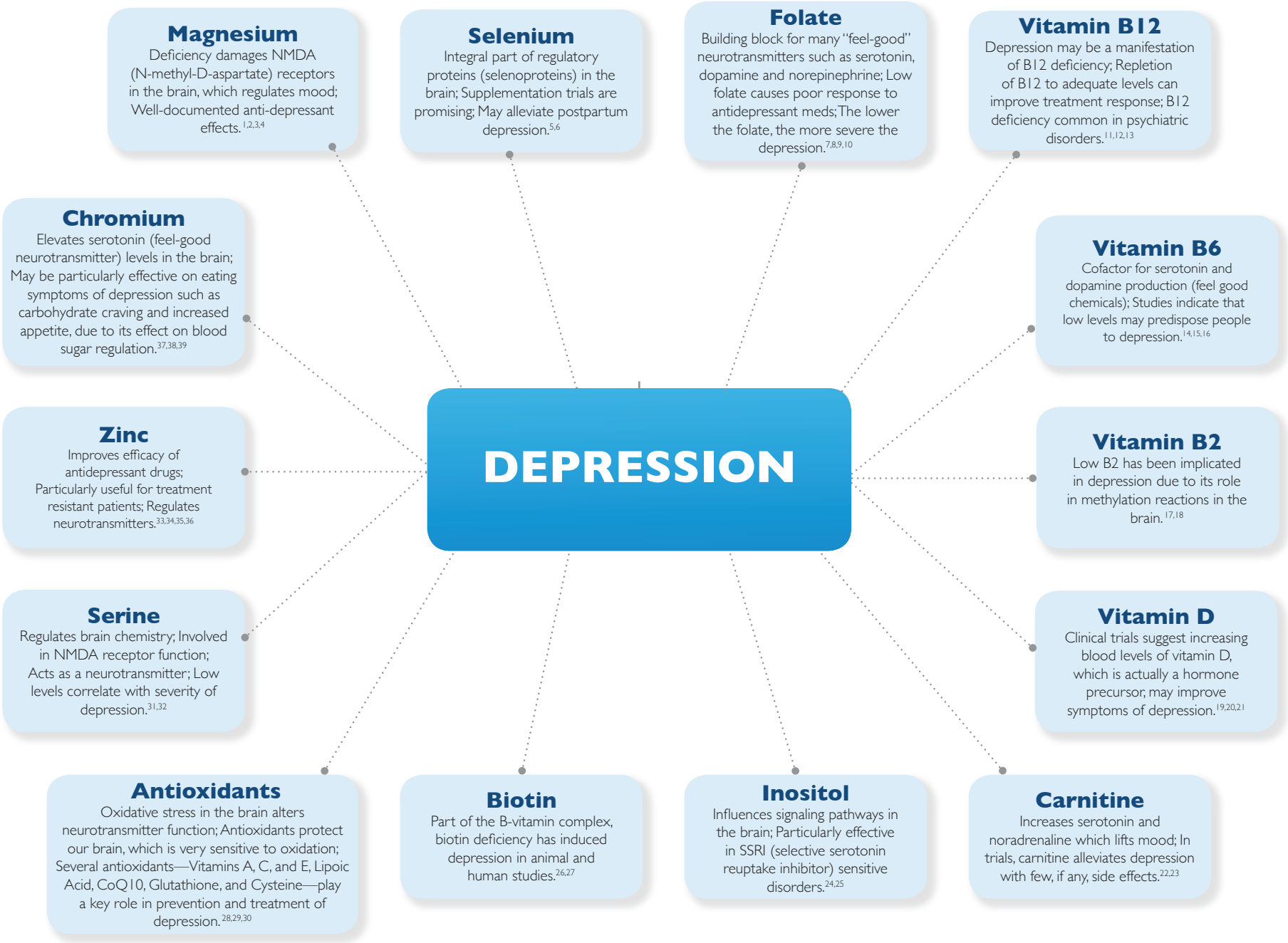

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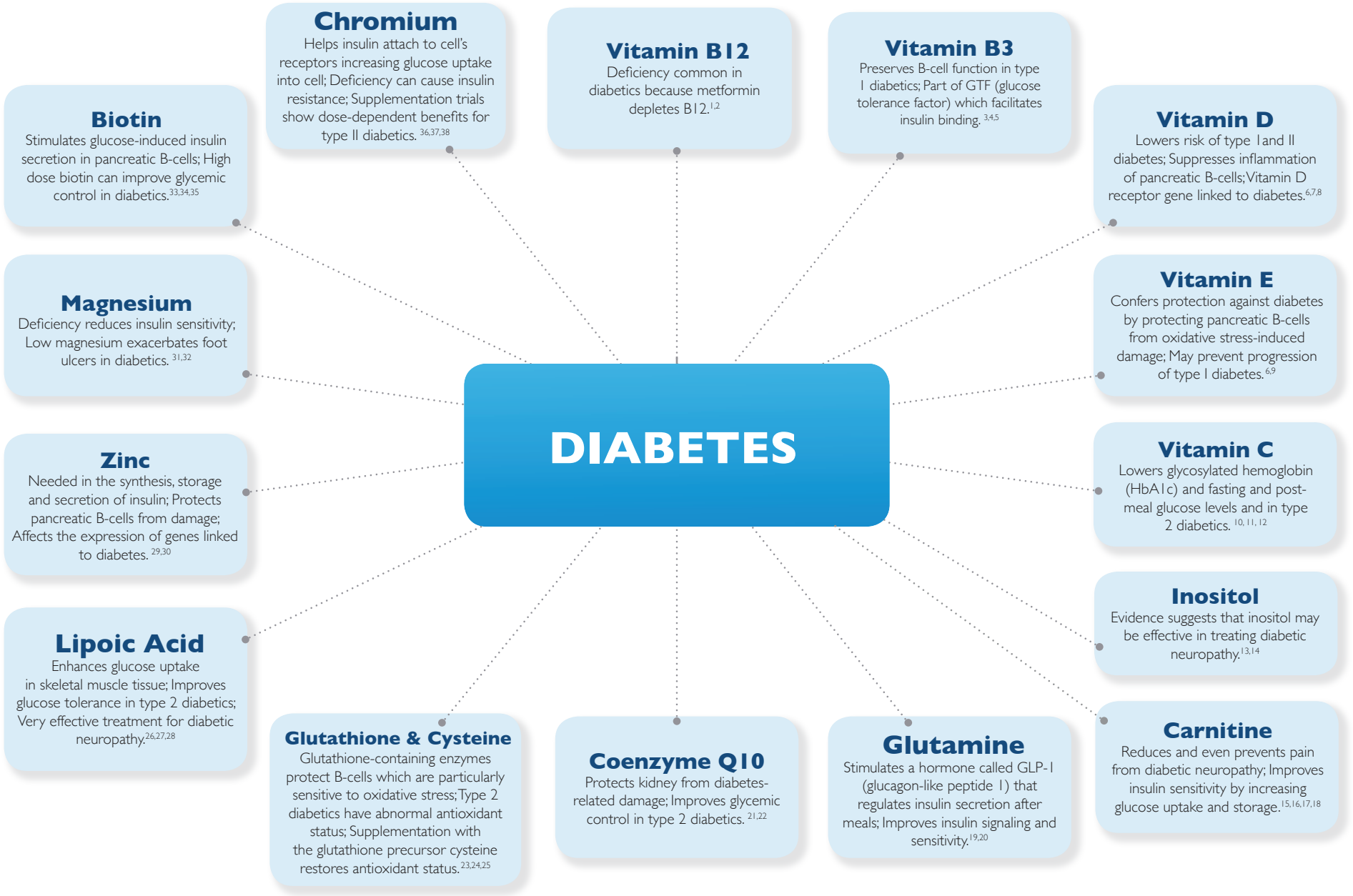

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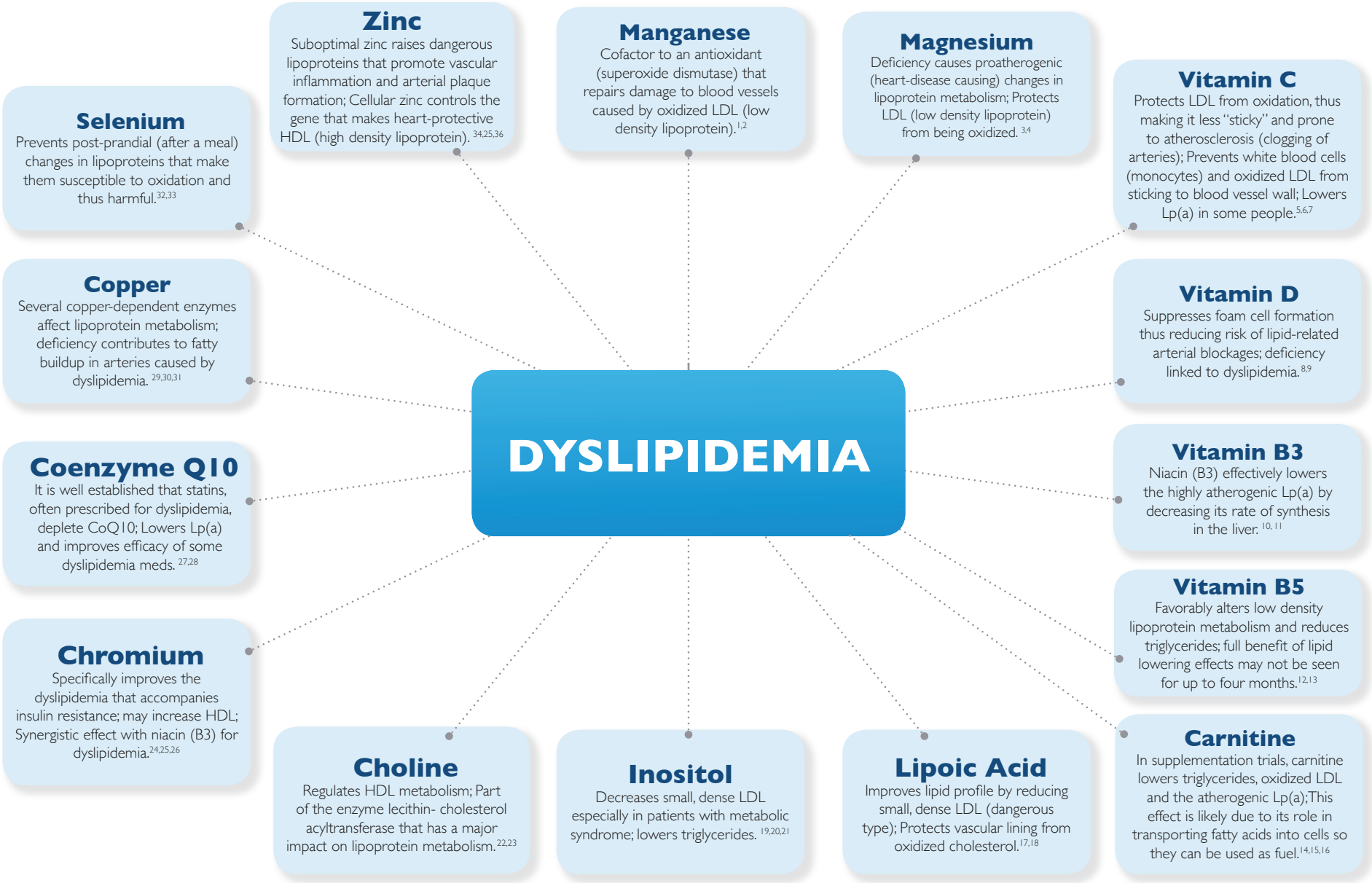

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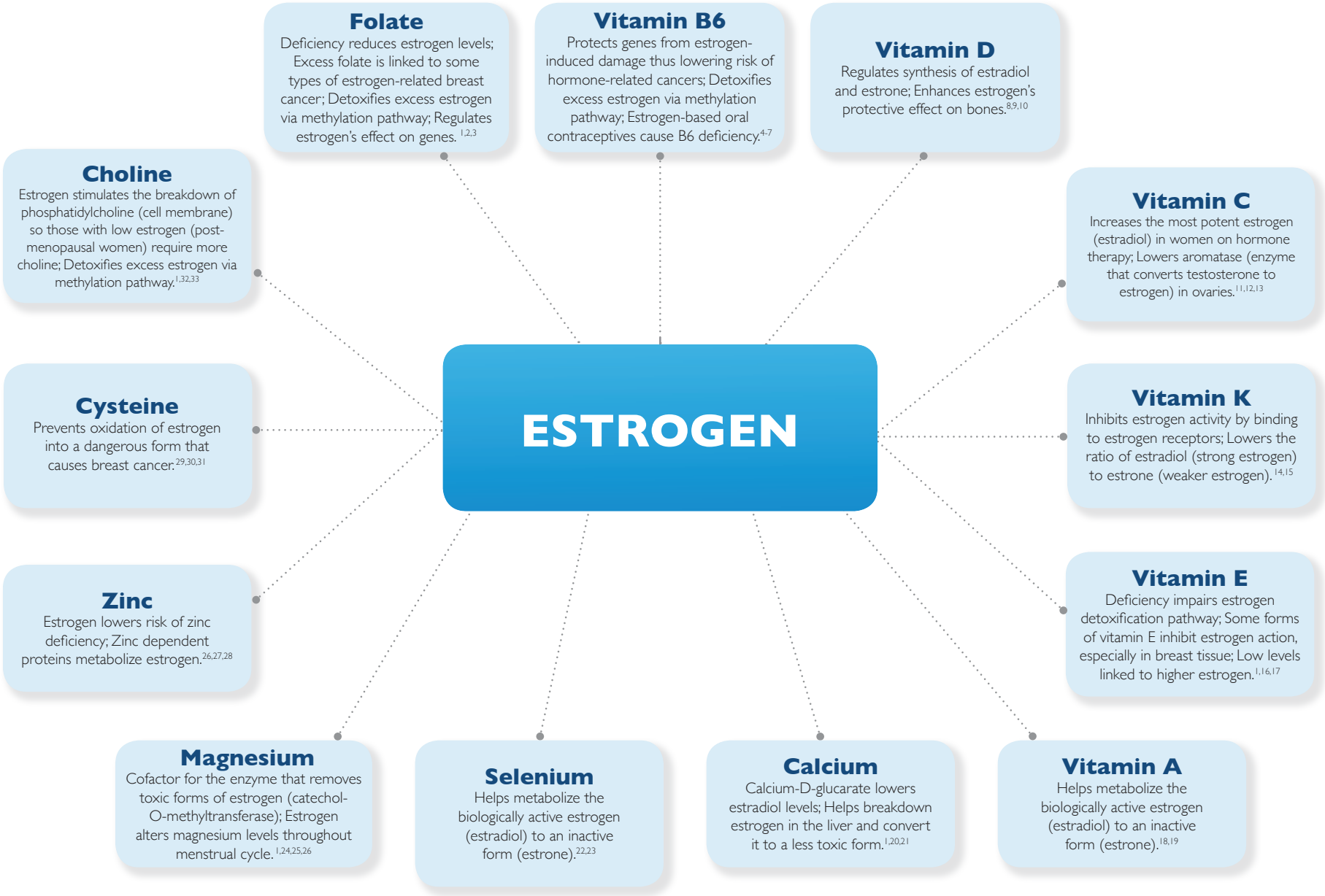

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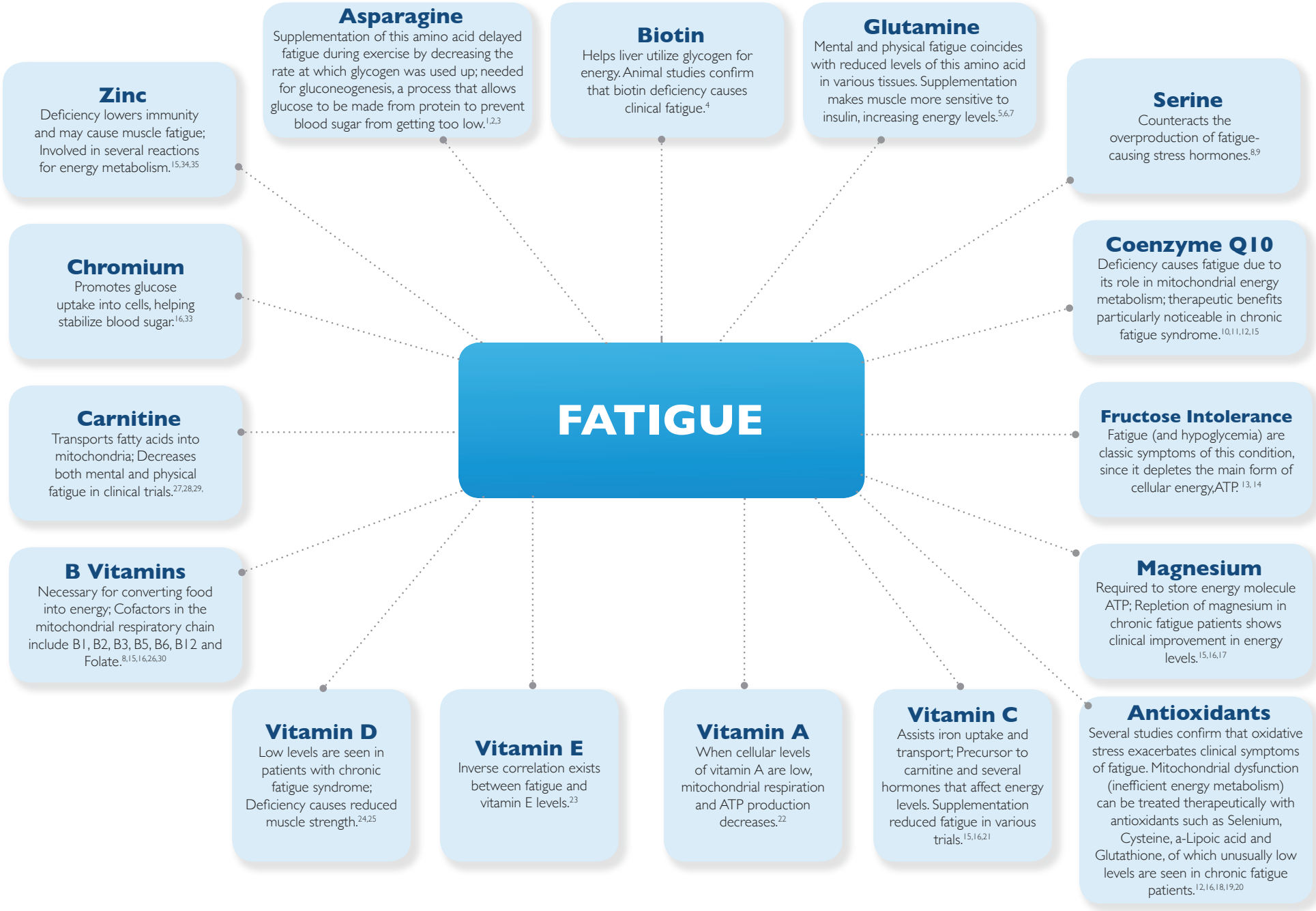

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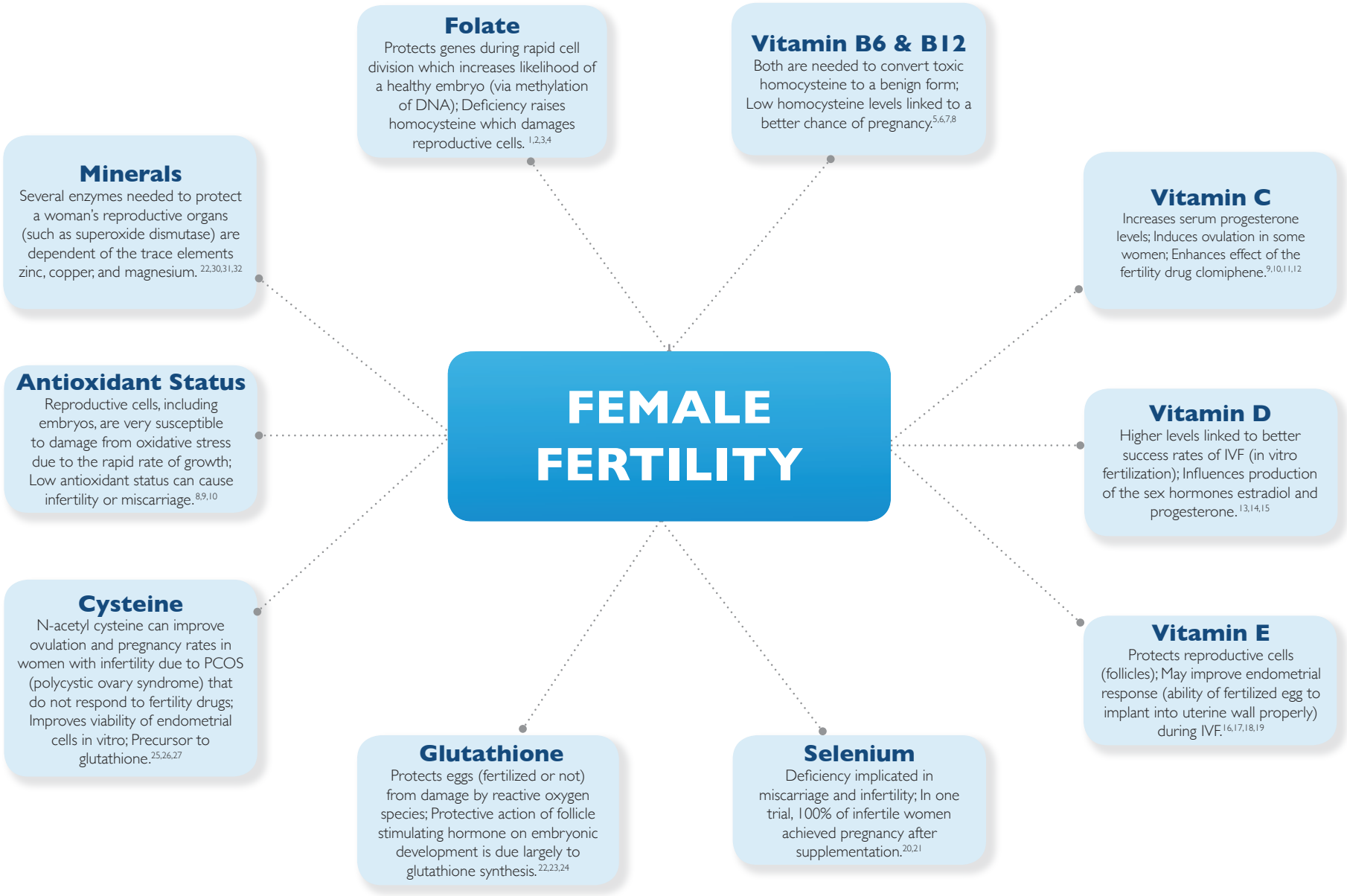

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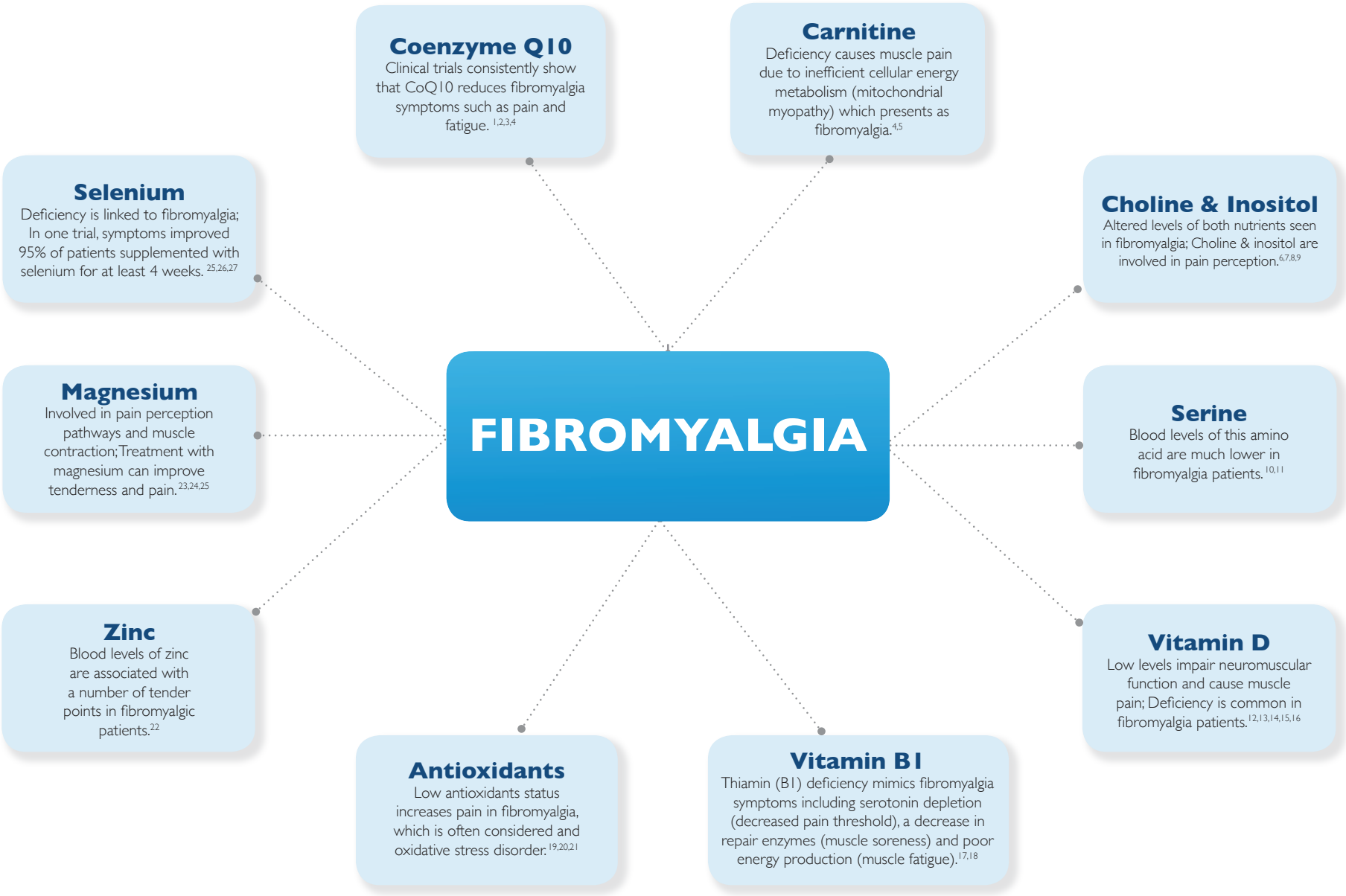

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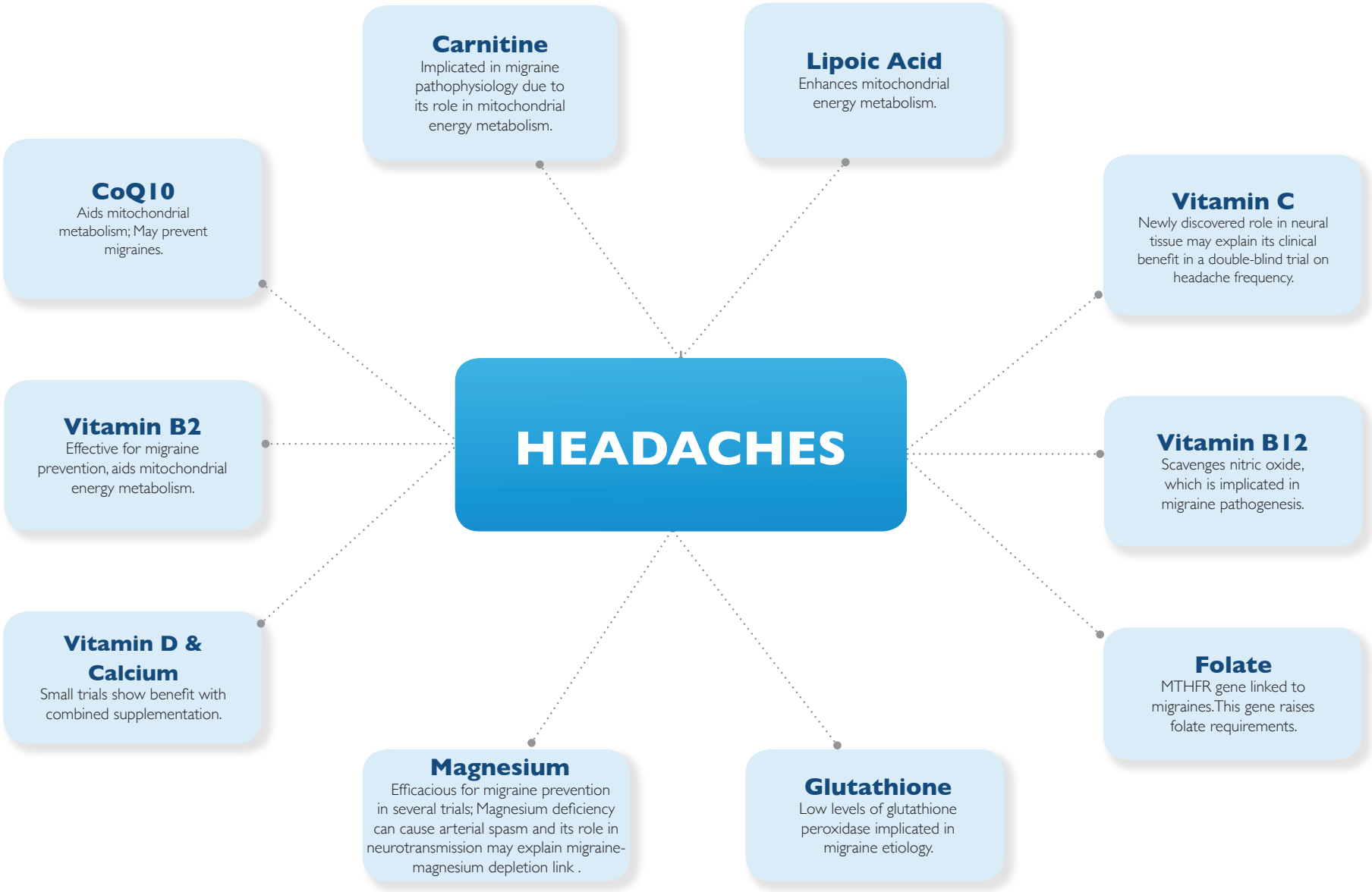

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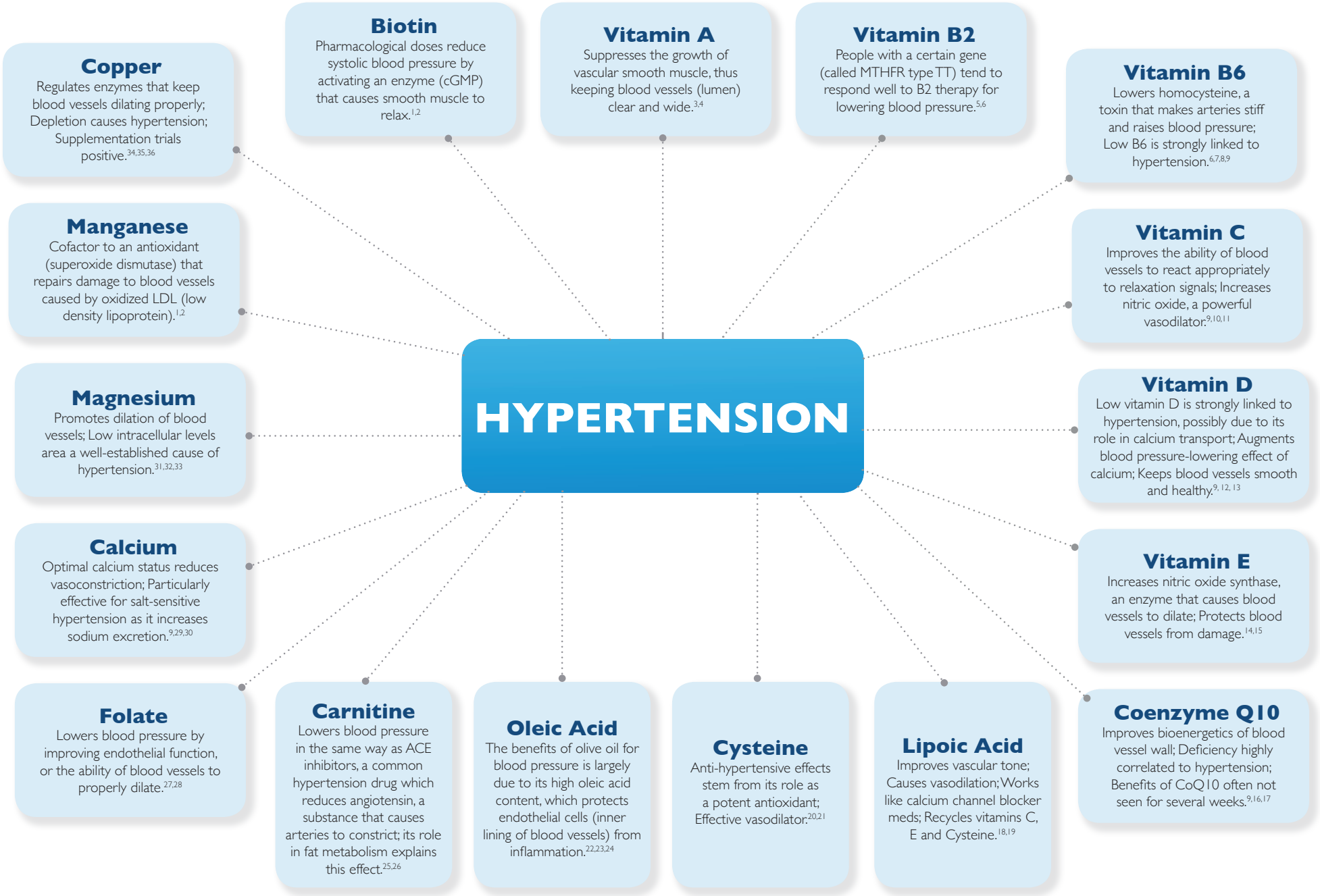

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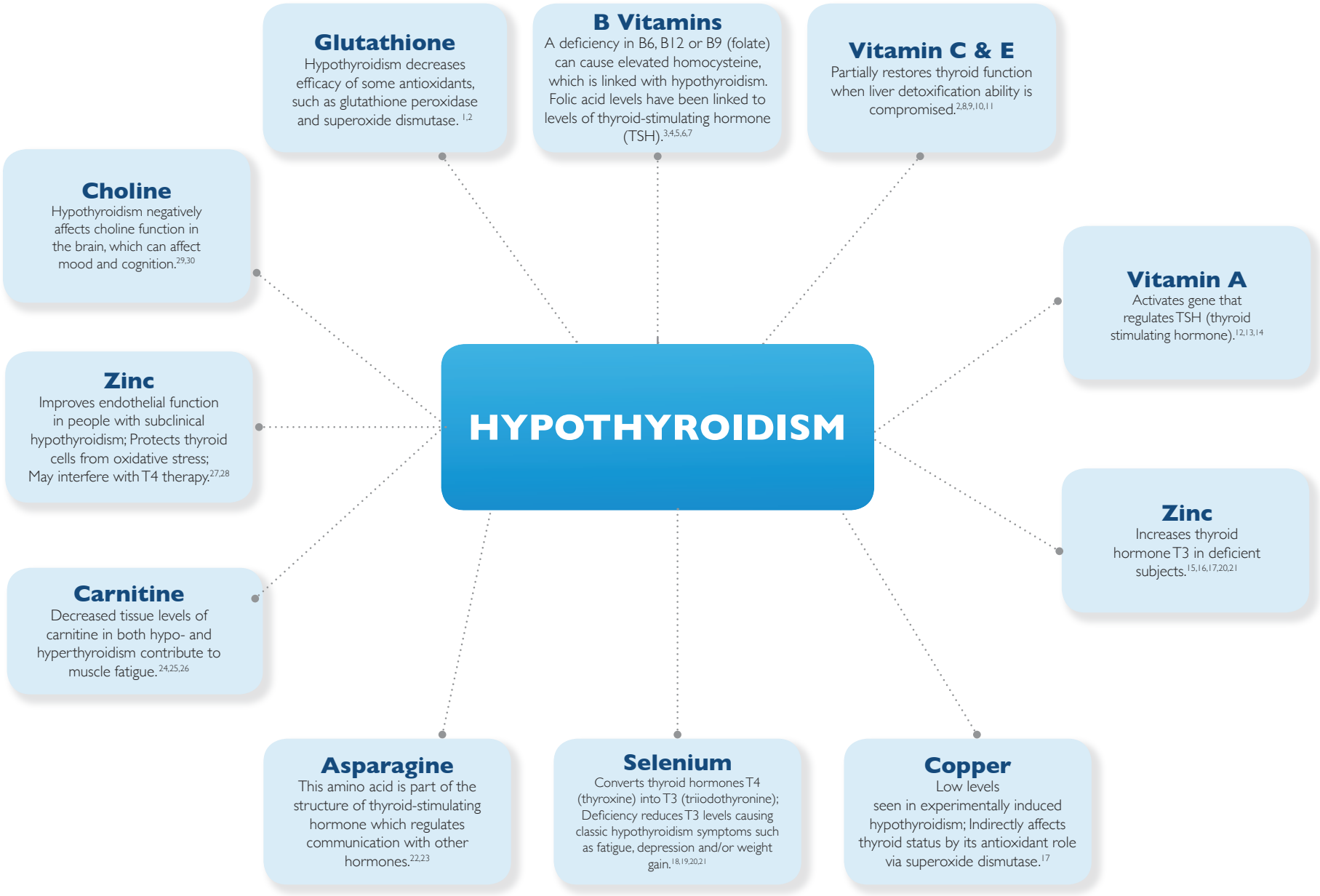

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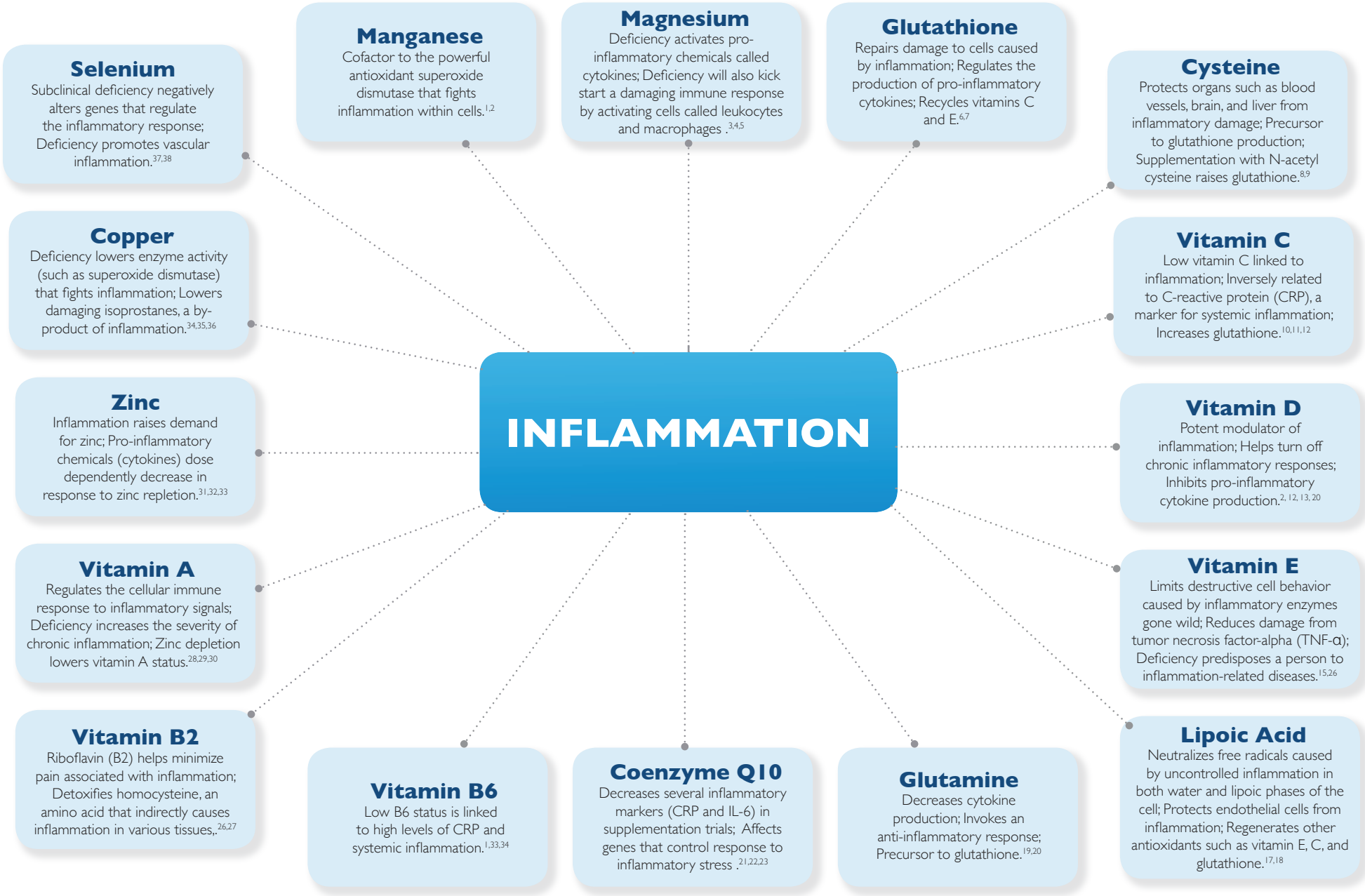

Additional nutrients can affect adrenal function. This list is non-exhaustive.

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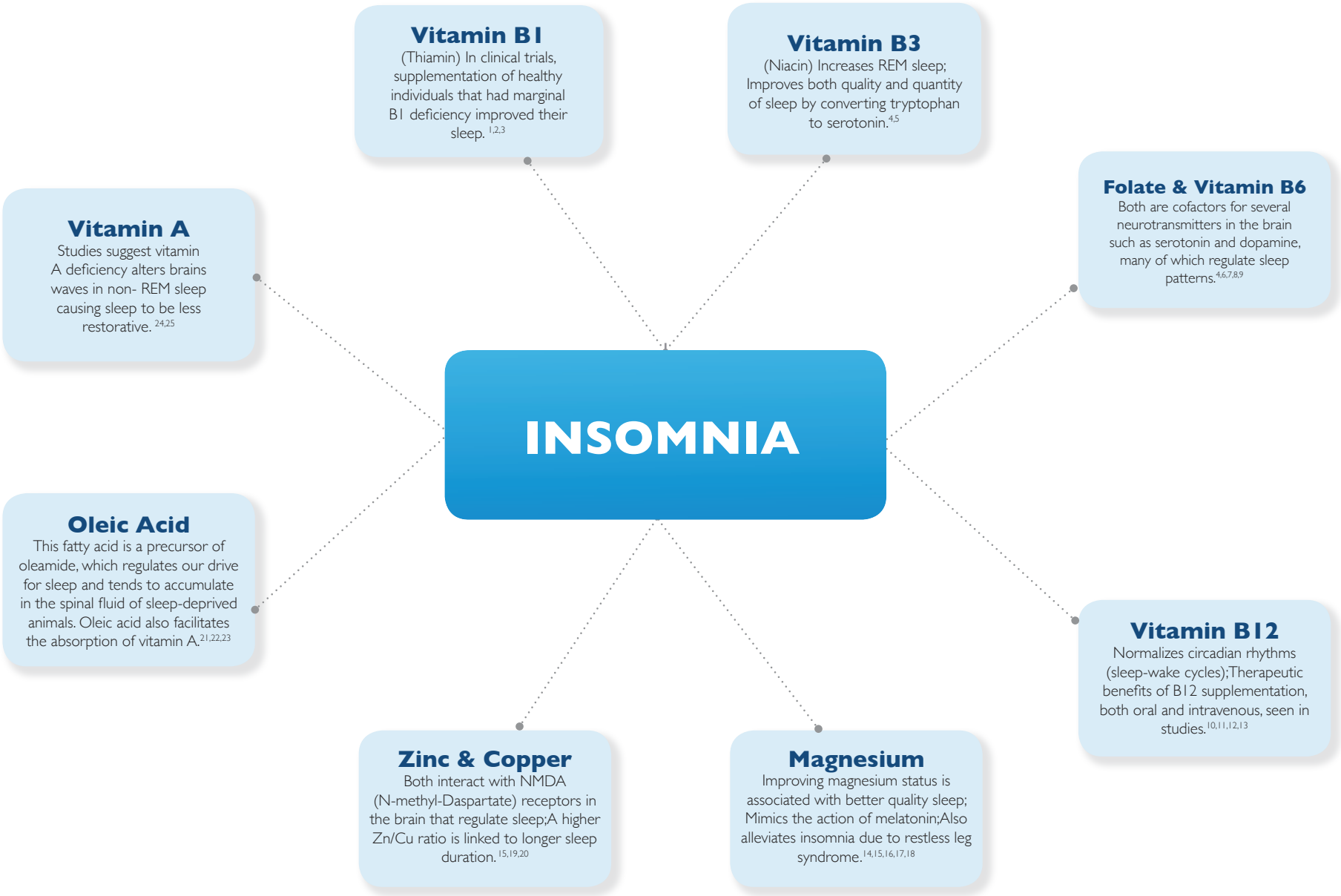

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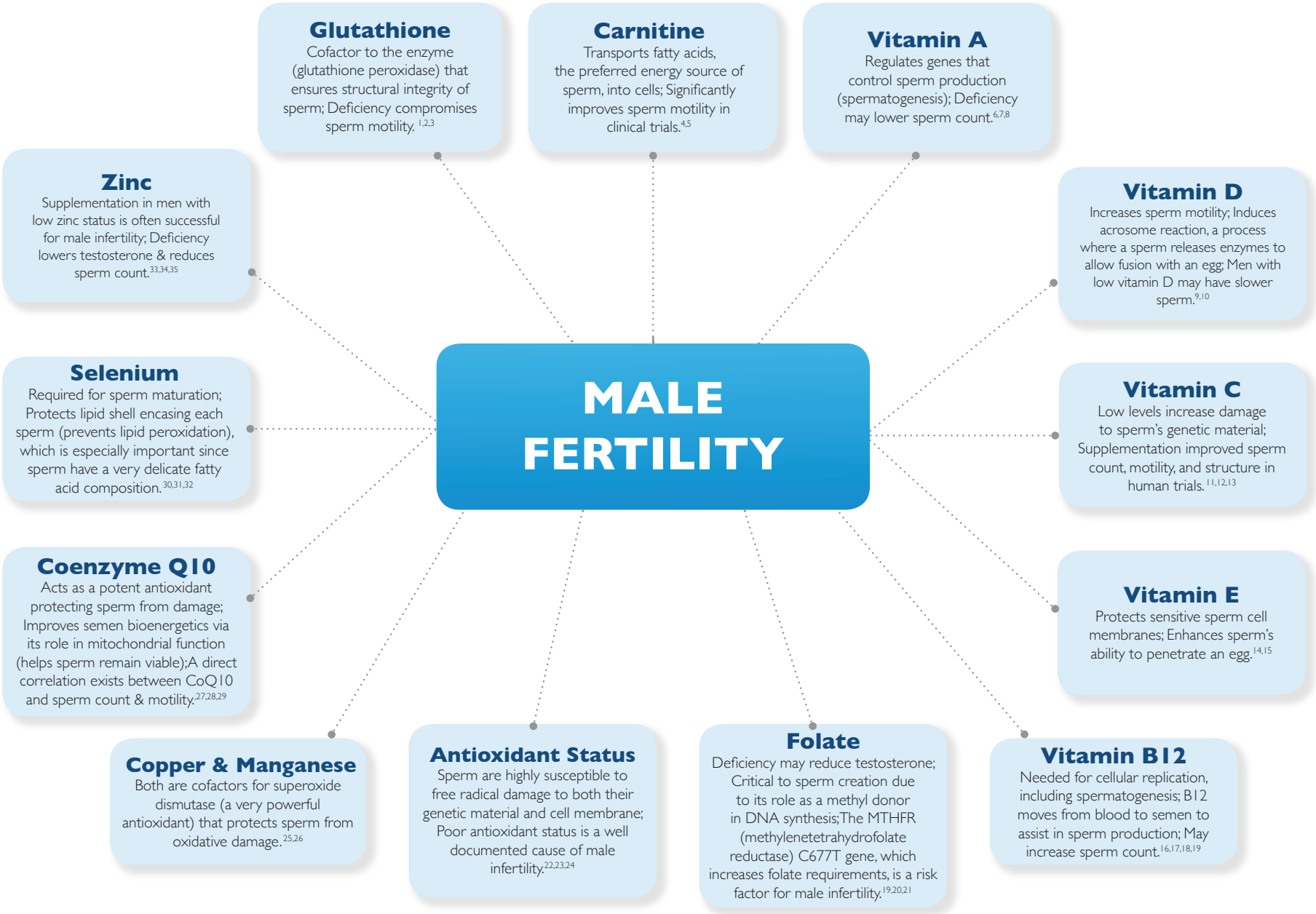

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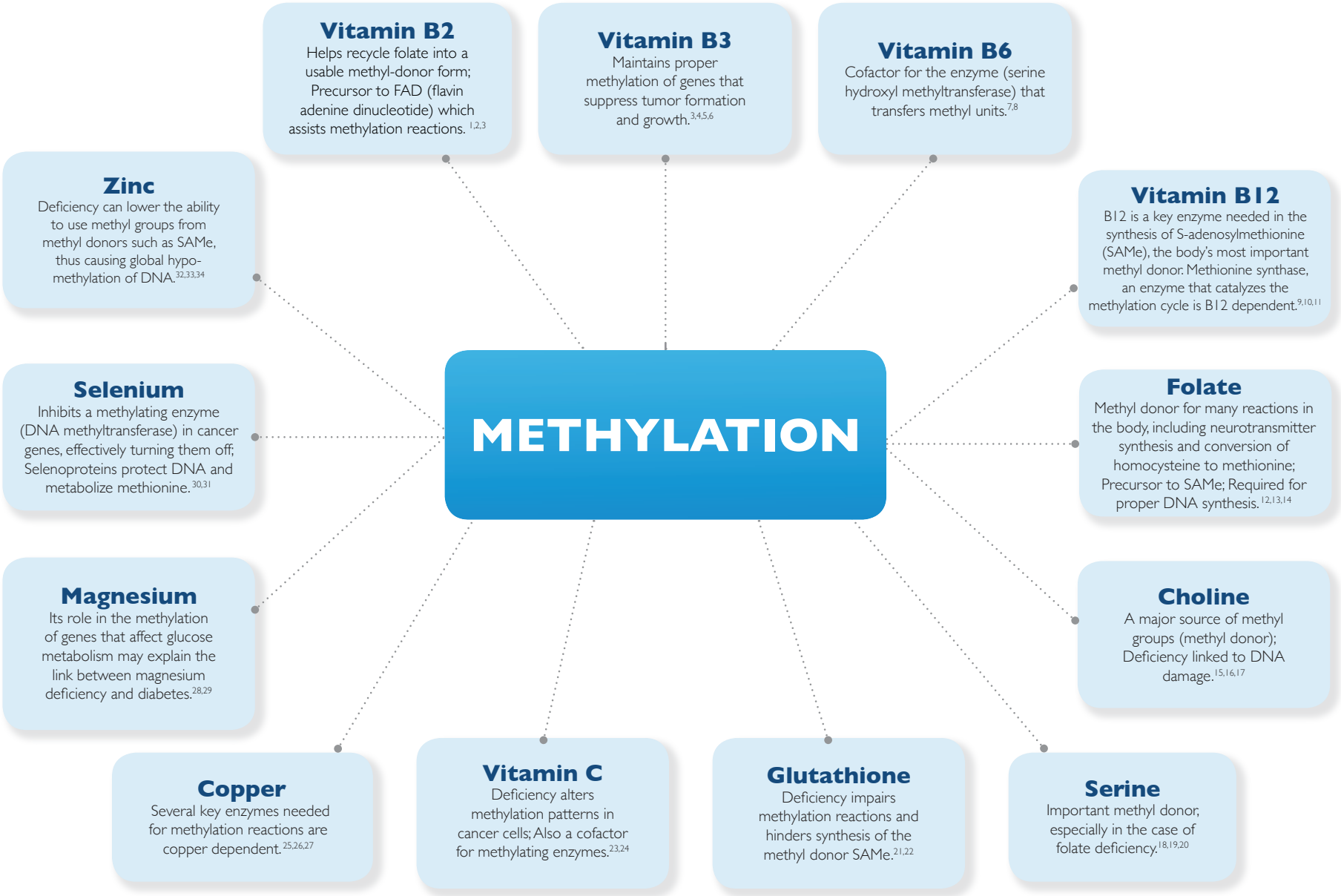

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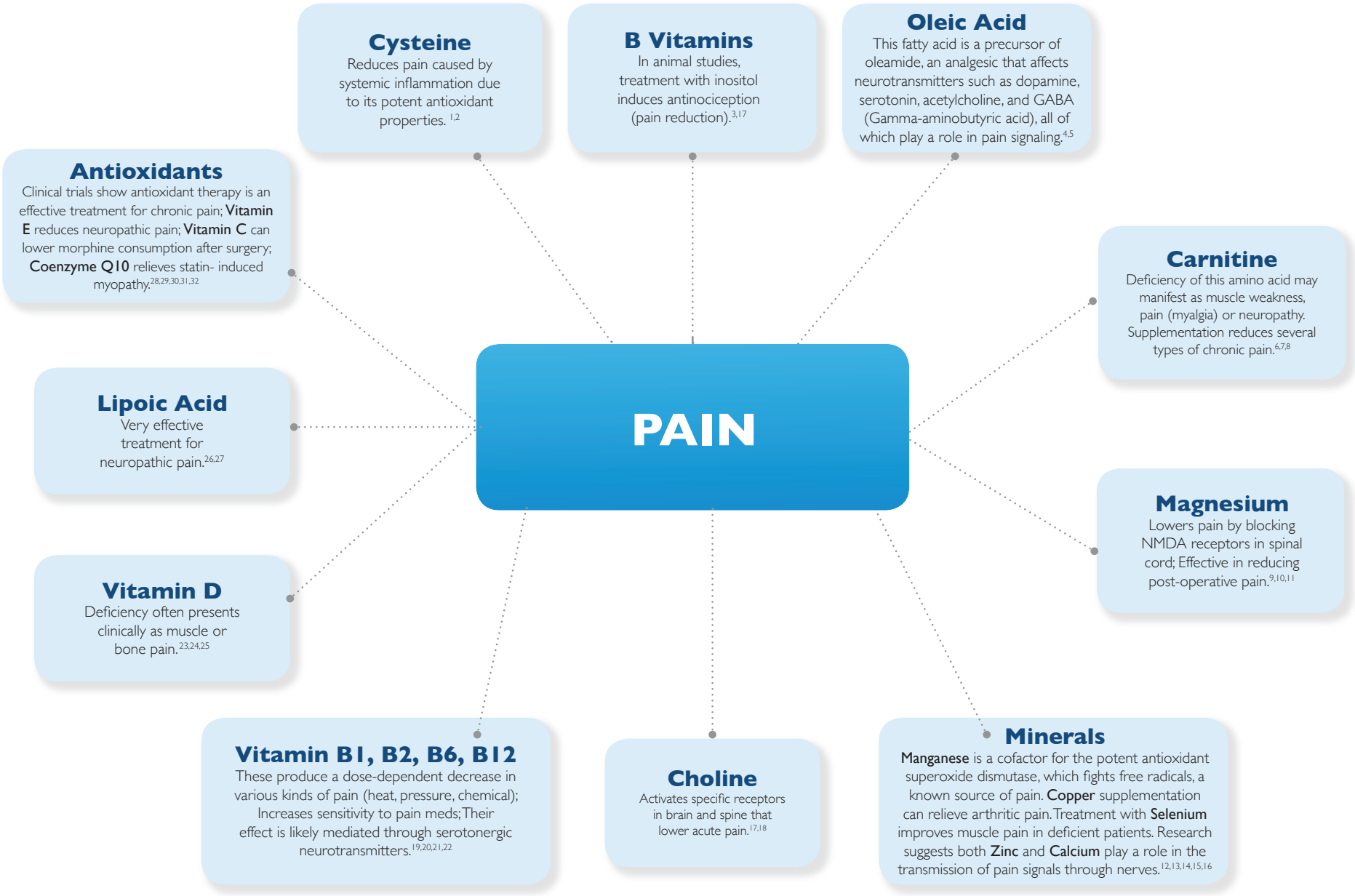

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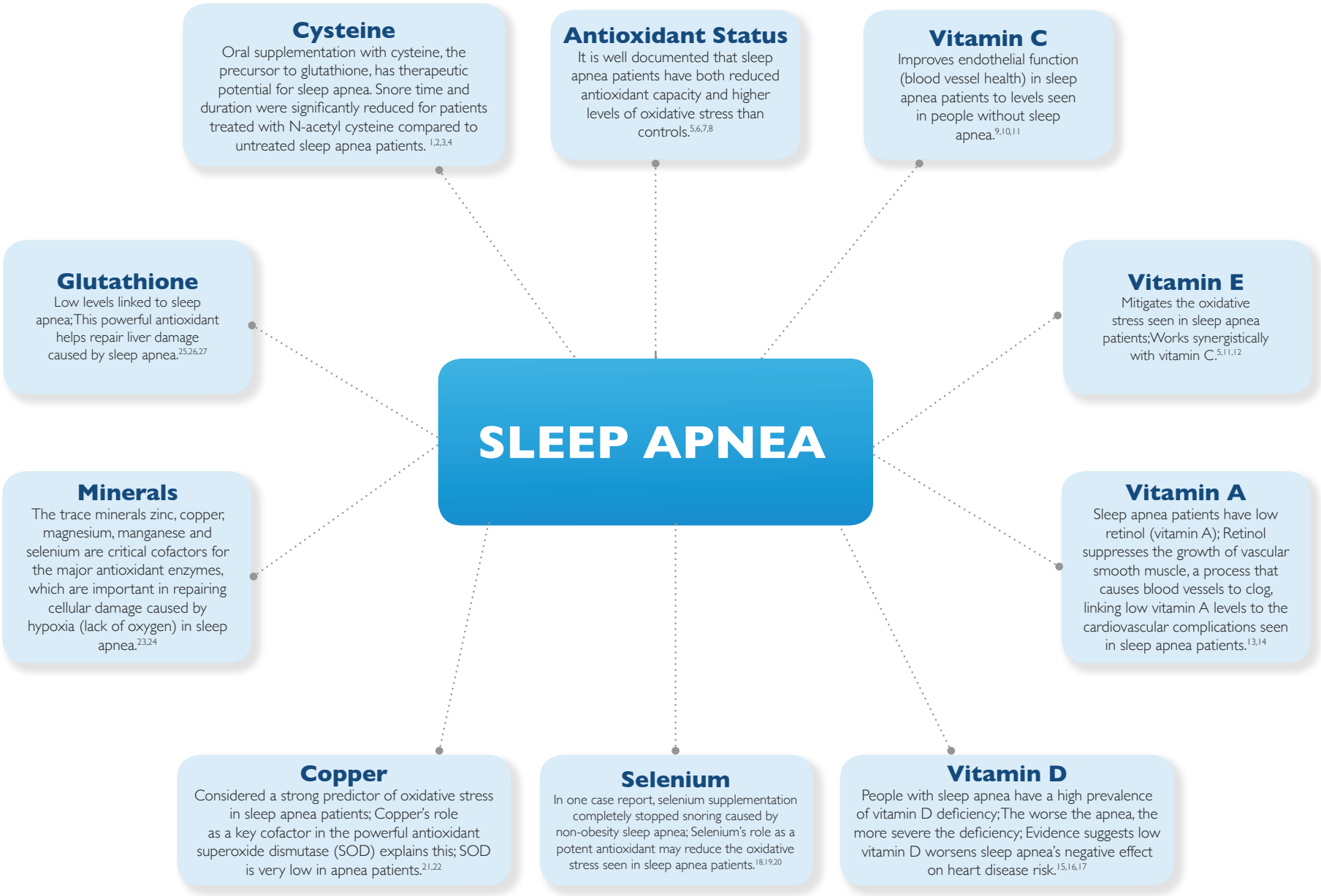

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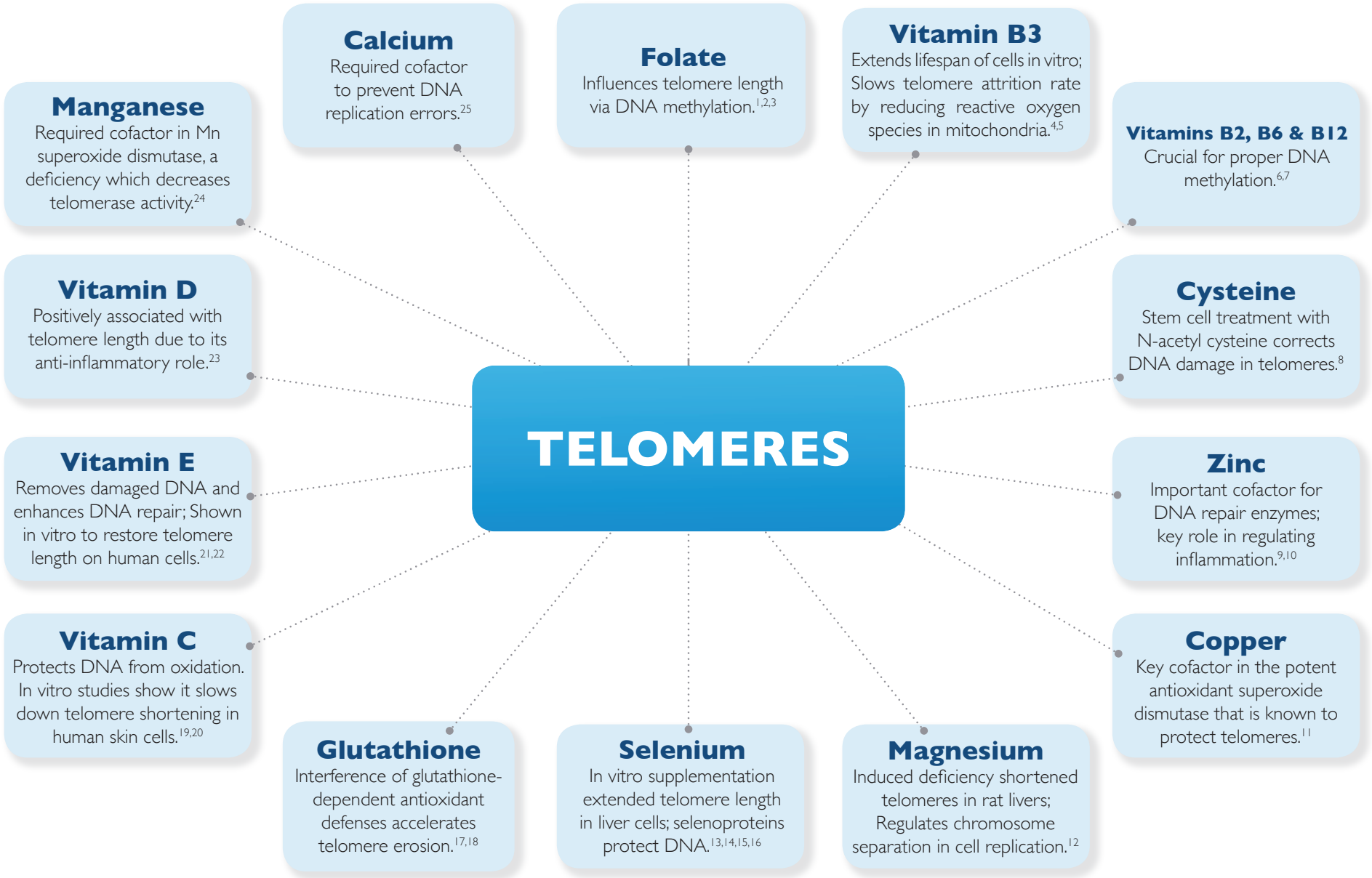

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Additional nutrients affect athletic performance. This list is non-exhaustive.

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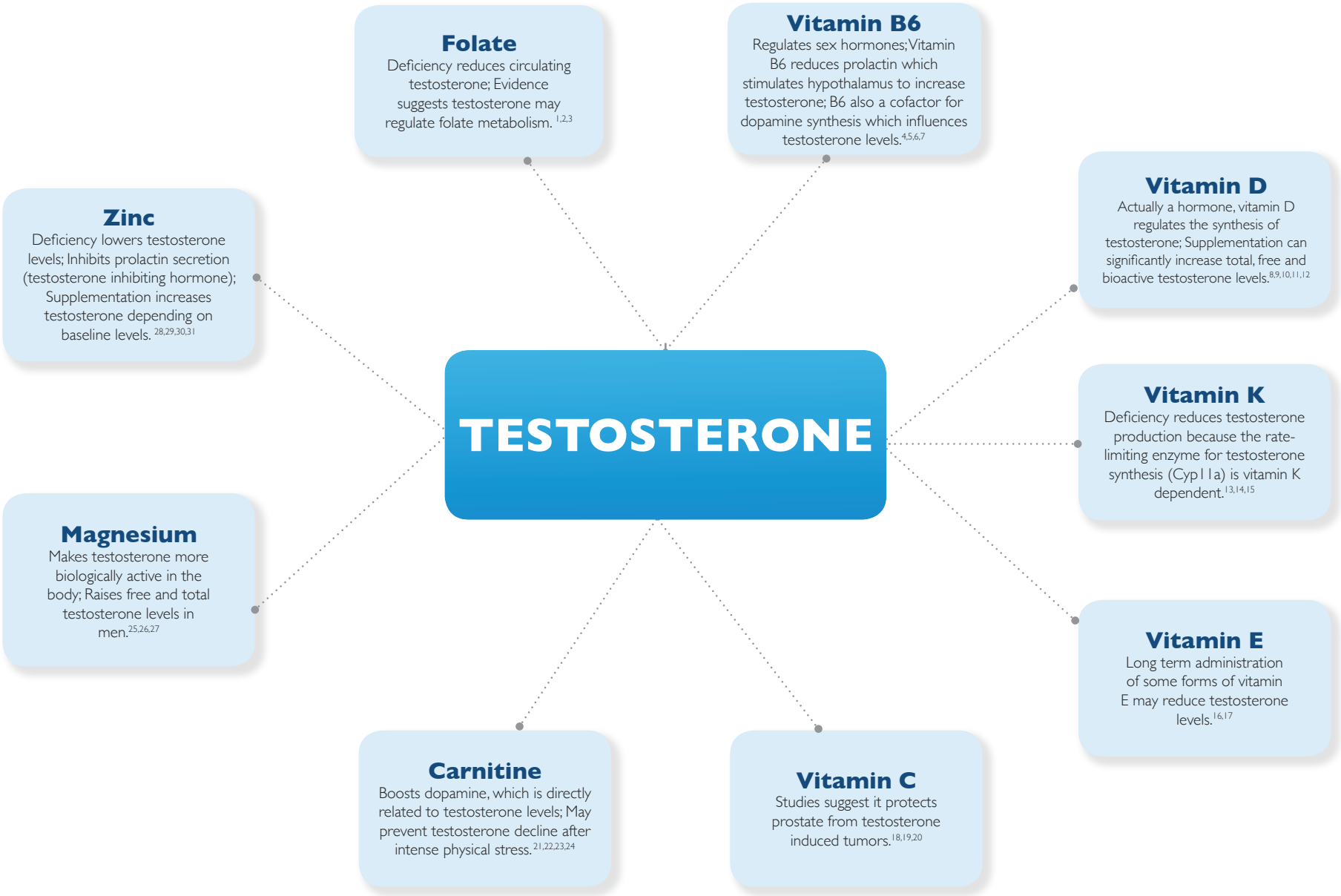

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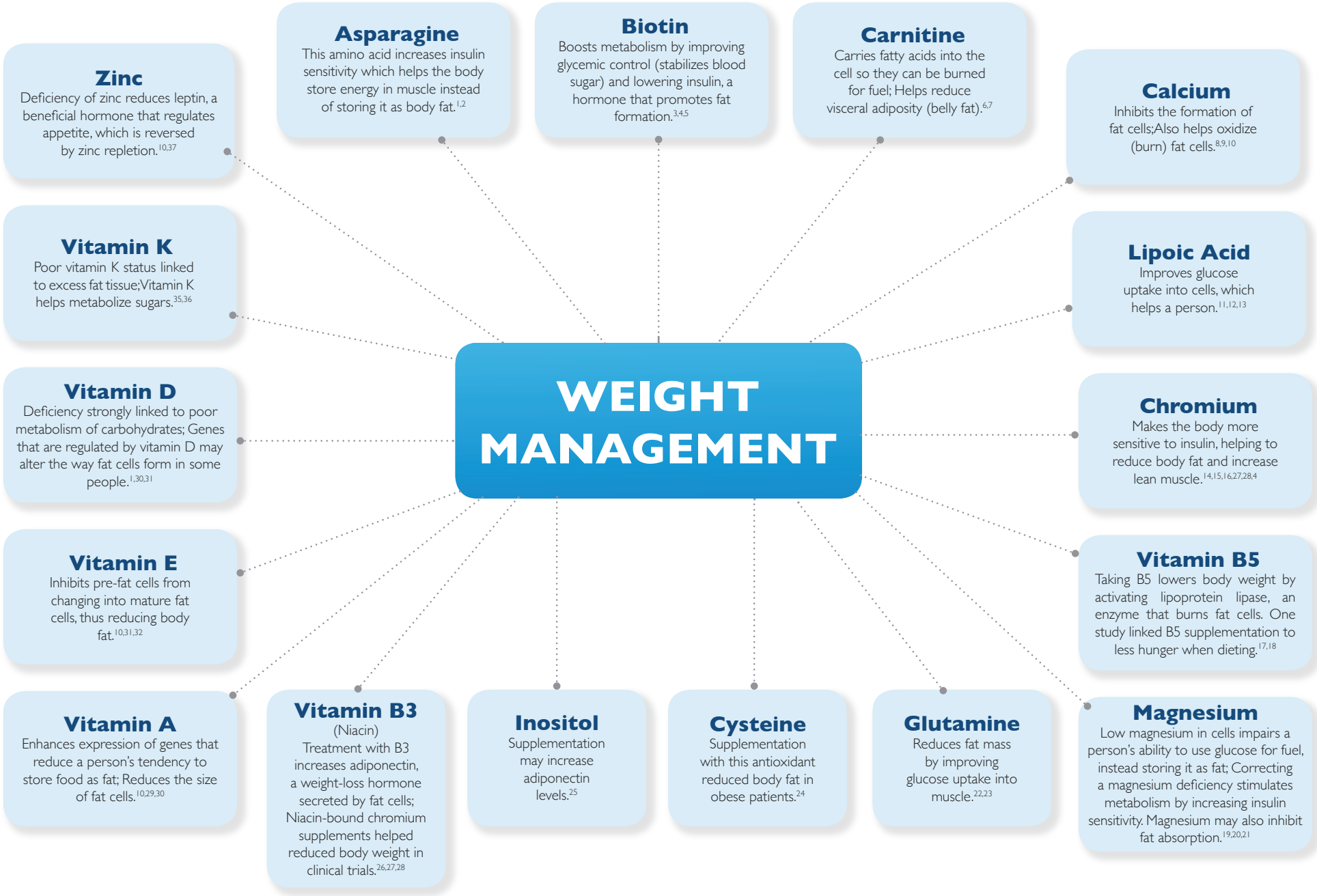

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