

**Health Factor Zone related to the GKI Ratio (Glucose: Ketone Ratio)**

This is for information (non-medical) purposes only.

Health Factor Zone	Zone Reference Names	Blood Glucose Level mmol/L	Blood Ketone Level mmol/L	GKI Glucose/Ketone Ratio
1	Max Autophagy	3.9 to 2.7	2.6 to 6.5	1.5 to 0.4
2	Therapeutic	3.9 to 2.9	1.3 to 2.6	3.0 to 1.5
3	Healthy Target Range	5.2 to 3.9	0.9 to 1.3	6.0 to 3.0
4	Insulin Sensitive	5.3 to 5.1	0.6 to 0.9	9.0 to 6.0
5	Insulin Resistant	5.5 to 5.3	0.2 to 0.5	27 to 10
6	Pre-diabetic	6.9 to 5.6	0.2 to 0.4	35 to 14
7	Untreated Type 2 diabetic	> 6.9	< 0.3	70 to 23
7b	Type 3 diabetic (Alzheimer's)	> 6.4	< 0.3	> 21
8	Untreated Type 1 diabetic	27.8 to 7.0	< 0.1	280 to 70
1 - 4	LiCrON	5.2 to 3.3	0.9 to 5.5	9.0 to 0.6

LiCrON is a set of protocols developed by Marcus Pearson to promote optimum health through nutrition.

This infographic has been produced by Marcus Pearson of Be Super Ltd

It was compiled from information supplied on the internet from medical professionals.

We believe this information should be balanced with the **Health Factor Zone for HRV (Heart Rate Variability)**.

Such insights are available from the **Be Super Wellbeing Package (www.besuper.ltd)**

Health Factor Zone	Benefits or Problems
<b>1 Maximum Autophagy</b>	<p>Maximum or prolonged autophagy extends lifespan and reduces the development of age-related diseases such as <a href="#">diabetes</a>, <a href="#">cancer</a>, and <a href="#">neurodegenerative and cardiovascular diseases</a>.</p> <p>Maximum autophagy improves the recycling of protein cells for energy when no nutrients (no fats) are available (of significance when fat stores are minimal). Optimal autophagy selectively removes specific damaged proteins that lead to <a href="#">Parkinson's disease</a> and <a href="#">Alzheimer's</a>. It also regulates tumor suppressive genes, especially in <a href="#">cancers</a>. Prolonged Autophagy helps overcome neurodegeneration, cardiomyopathy, diabetes, liver disease, autoimmune diseases and infections," preventing damage to healthy tissues and organs (known as necrosis).</p> <p>Alongside these Health Zones '<a href="#">HRV Health Zones</a>' are also a significant indicator of optimal health and maximum autophagy. HRV may be used as an excellent tool to identify higher levels of CRP (C-reactive protein); <b>Maximum autophagy prevents prolonged SNS</b> (sympathetic nervous system) activity which is associated with a greater risk of hypertension, diabetes and cardiovascular disease (<a href="#">Dehghan et al., 2007</a>). <a href="#">Jarczok et al. (2014)</a> (<a href="#">Kudat et al., 2006</a>; <a href="#">Thayer et al., 2010</a>). Prolonged SNS activation may lead to activation of the <a href="#">PNS freeze response</a>; which may lead to seizures, coma or a stroke. In 2015 over 33 million people worldwide suffered a first or recurrent stroke. Further insights on the benefits of autophagy related to the benefits of 'Polyvagal Theory' are provided within the <a href="#">Wellbeing Package from Be Super</a>. (Marcus Pearson is a trained SSP Therapist, which is based on Polyvagal Theory and worldwide clinical practice).</p>
<b>2 Therapeutic</b>	<p>In this zone therapeutic autophagy maximises the benefits of zones 4 and 3: furthermore, it significantly improves cognitive function, brain structure and neuroplasticity. This is ideal for people seeking to overcome strokes and other degenerative problems. It further supports growth of heart cells and protects against heart disease. It enhances the immune system against infections such as COVID-19, by eliminating intracellular pathogens and it totally removes triglycerides and lowers LDL cholesterol.</p> <p>This zone is excellent for defending against misfolded, toxic proteins that contribute to a number of amyloid diseases, which may lead to life-threatening organ failure – (in the body and the brain). It also protects stability of DNA and healthy gene regeneration.</p>

<b>3 Healthy Target Range</b>	Autophagy kicks in further and starts AMPK production. This turns off Mtor and increases the production of more Ketones for energy. This stops insulin production, and allows fat to be burned for energy. This stage stops growth (whilst preventing muscle loss) and focuses on regeneration. In this range toxins and damaged cells from the body are removed and replaced with new healthy cells. Exercise at this stage increases the benefits of autophagy even further. and all the benefits of zone 4 are extended. Prolonged time in this zone triggers NAD+. These now signal DNA longevity genes called 'Sirtuins; and these can trigger new energy from the synthesis of damaged cells – and regeneration can start. This new growth is different to the build up and recovery of existing cells from zone 4 – it is what makes people look and feel younger, rather than just gaining muscle or becoming 'fitter'. <b>Knowing you are in this zone would be beneficial for anyone competing in performance sport – as it is perfect for the period of rest and rejuvenation – ready to kick on with new cells rather than old ones. Perfect for skin renewal and for improvement with vision or brain degenerative disease.</b>
<b>4 Insulin Sensitive</b>	This is a high growth state focusing on repair and recovery. Ketone production is started, and intermittent Ketosis fluctuates. Inflammation is improved as is DNA repair. HGH (Human Growth Hormone) and BDNF (Brain Derived Neurotrophic Factor) is produced in significant beneficial quantity, which increases brain synapses (Neurogenesis). Exercise at this time (especially during a fasted state) increases all the above benefits. Within this zone growth is promoted through neuro sensors such as Mtor and signalling molecules such as NADH. If this zone is further extended (the time is variable with each person) then autophagy may start and you will likely progress to zone 3. <b>Knowing you are in this zone would be beneficial for anyone competing in performance sport or anyone seeking to improve physical appearance (body not skin).</b>
<b>5 Insulin Resistant</b>	Please watch <a href="#">this YouTube video</a> from Sten Ekberg – we think he is very informative.
<b>6 Pre-diabetic</b>	Please watch <a href="#">this YouTube video</a> from Sten Ekberg – we think he is very informative.
<b>7 Untreated Type 2 diabetes</b>	Please watch <a href="#">this YouTube video</a> from Sten Ekberg – we think he is very informative.
<b>7b Type 3 diabetic (Alzheimer's)</b>	Type 3 Untreated Type 3 diabetes (Alzheimer's disease)– ( <a href="https://www.diabetes.org.uk/diabetes-the-basics/type-3c-diabetes">https://www.diabetes.org.uk/diabetes-the-basics/type-3c-diabetes</a> ) Research info on dementia - <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3955123/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3955123/</a>
<b>8 Untreated Type 1 diabetic</b>	

To find out more and ask any questions or even to arrange a personal or zoom meeting:

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