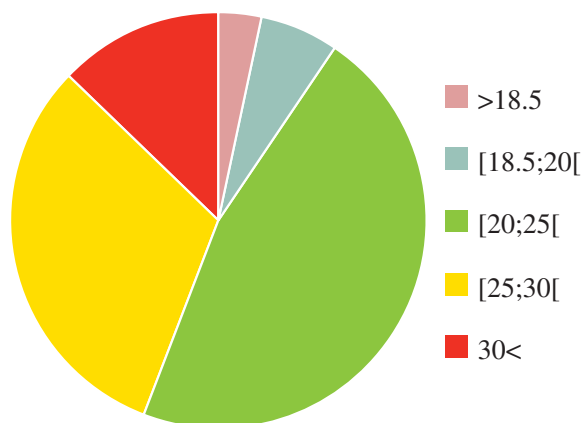


Managing Obesity

It cannot be ignored: Obesity is a serious problem in today's society. Not a day passes without a health pressure group, medical association or the government sounding the alarm bell. With its scientific integrated body health approach, Mensana offers weight loss assistance, beyond common approaches.

BMI Classification Belgian population of 18 years and older⁴



Obesity in Belgium

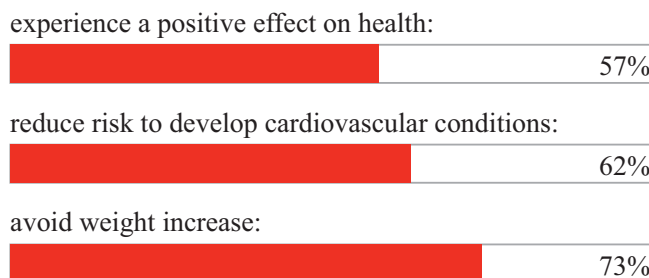
Obesity refers to more than physical appearance: “*Obesity is an independent risk factor to a wide range of disorders. Diabetes (type 2, insulin-resistance), cardiovascular diseases, hypertension, sleeping disorders, some cancers, arthrosis - just to mention a few risk factors.*” Obesity Forum.¹ In addition to the severity of the condition, the magnitude of obesity is alarming: based on Body Mass Index (BMI) classification no less than 12.7% of Belgium's population older than 18 years is reported obese (BMI >30), with an additional 31.4% considered as overweight (25< BMI <30).² In assessing the Obesity problematic, one may not forget to also include the Normal Weight Obese (NWO) population, i.e. the individuals with an unhealthy fat proportion, masked by low muscle mass and/or weak bones.³ As such Mensana estimates **at least half of the Belgian population is overweight.**



Managing Obesity

Managing obesity is all about balancing the energy intake (nutrition) and energy consumption (physical activity); and this is where a lot of people fail today: Although genetic disorders do exist, in many cases the root of Obesity lies in poor diet choices and physical inactivity.

Percentage of Belgian population of 18y and older, that does *not* engage in sufficient physical exercise in order to:⁵



Weight loss assistance, beyond the common approach

Scientific integrated body health approach

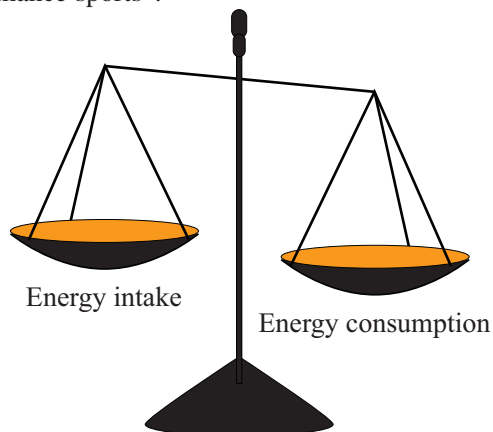
Manned with a multi-disciplinary team of medical doctors, equipped with the latest technologies available, and dedicated to the belief that sport is a primary healing potion, Mensana not only assists the individual, but groups as well, with a customized Mensana Treat program.



Obesity and sports medicine?

Both are more interrelated than one would expect at first glance: Obesity and sports medicine are both about managing energy intake and consumption; and physical activity – in combination with a balanced, adequate nutritional regimen – is Mensana’s primary approach.

A lot of people however, think this is very challenging, and the challenge too big of a burden. We teach them that physical exercise can be fun, and is not limited to “top performance sports”.



A baseline: where you are now

- In a group or as an individual...
- At your company, school, senior house...
- For your event or campaign...



...there is a solution: our Mensana Mobile Health Facility or our Mensana Hospital Health Facility.

Your profile

No two individuals, preferences, metabolisms, or bodies are alike, which is why the Mensana Treat program is always customized, but some profiles are recurrent:

- “Medication and super diets kept my weight and state of mind bouncing up and down: setting a longer term lifestyle-changing program proved better: not only is my weight under control, I feel healthy. Key in achieving this: motivation, received by proper feedback, deeper understanding & realistic goal setting.” V.L. (Florist)*
- “Aged 29 I was obese & sedentary when my father, 52, had a stroke and died. Now 34 and 23kg less, I am confident I will see T., my own son, growing up.” J.B. (Cook)*
- “Most people do not really know what their health status is. They also tend to rely on traditional methods such as the weight scale to assess if they have become healthier. Weight loss may matter, but what matters more is knowing where the fat is lost fat, and where the remainder of fat is distributed in the body.” C. Maes (PhD, Mensana)*

Looking beyond BMI, waist circumference or weight scale

Caused by the energy imbalance, Obesity is a complex phenomenon: it includes and affects the whole body – hence the scientific integrated body health approach.

During the Mensana Treat program the following interrelating steps are taken:

Analysis – Anamnesis, Sampling & Recommendations

- Anamnesis: Family history, lifestyle and habits are thoroughly assessed and risk factors are evaluated with the individual.
- Sampling: Blood, saliva & urine are analyzed, focusing on insulin, LDL/HDL cholesterol, triglycerides and lactic acid levels, as are the metabolic digestion and liver function. Additionally the composition and nutritional value (calorimetry) of food is assessed.

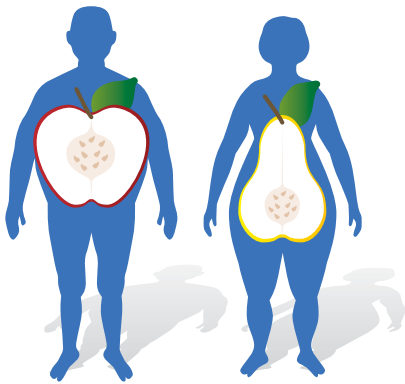
- Recommendations: Preceded by thorough statistical analysis of the clinical assessments, the Mensana Treat program recommendations provide proper feedback, focusing on realistic goal setting and mental coaching, immediately establishing regular follow-up intervals.

Analysis – Body composition & Bone health

- During the Body composition examination with Dual X-ray Absorptiometry (DXA) we assess the fat tissue mass and its distribution into various regions of interest, as well as the lean (muscle) tissue and the bone mass. We can monitor the efficiency of the treatment regimen and ascertain the weight loss is not at the expense of muscle or bone, but at the expense of fat mass.
- In addition to body composition, also a fracture risk assessment – ie. bone mineral density (BMD) test – is performed.



Fat matters... *where* matters more.



Analysis – Ultrasound diagnostic imaging

- While DXA also provides us a total body “macro” image of the fat & lean tissues and the skeleton, we visualize the organs, blood vessels, tendons, cartilage, fat and muscle in live “micro” 4D with ultrasound.
- As the Obese, due to their mass, are very prone to wearing of the typical weight-bearing regions, special attention goes to assessing the knee and heel (cfr. Pes planus, pes planus transversus,...).
- Additionally, visualizing the abdominal region, anomalies can be detected early.

Performance – Exertion physiology

- Key to adjusting the energy intake and consumption levels is to know about the metabolic rate and the functioning of the organs. The sampling tests (described above) provide us information to the gastro-intestinal functionality. The electrocardiogram and stethoscope gives us important insight to the functioning and pressure of the heart both in rest and in stress function and with the ergospirometer to determine pulmonary function with VO_2 and VCO_2 , as well as RMR (resting metabolic rate), BMR (basic metabolic rate) and the turning points.

Performance – Biomechanics and Power & Explosivity

- The muscular development, gait & movement analysis and basic fitness are assessed during the Biomechanics and Power & Explosivity modules, using the bike treadmill and the tri-axial accelerometer among others.
- Evaluating the basic fitness and muscular development, we can help the individual develop both central and local aerobic capacities at proper intensities, dedicated to fat reduction and muscle increase. Also, power and explosivity statuses merit special attention in this evaluation: we can help Obese overcome shortage of breath.
- In addition to the Ultrasound assessment of the feet (see above), a complete gait & movement analysis is executed in order to prevent movement inconvenience and the development of pathologies.

Mensana Treat+Optimize+Prevent

Body health is your worry and our expertise: Manned with a multi-disciplinary team of medical doctors, equipped with the latest technologies available and dedicated to the belief of sports as prime healing potion Mensana treats.

Mensana is also a leading centre for optimization and prevention, with programs in Sports medicine, Rheumatology, Public health awareness & evaluation, Ergonomic and Corporate health management.

1. Mens sana in corpore sano, Ancient Roman concept which relates the mental health of an individual to its healthy body – Juvenalis 10.356
2. Your body, assessed with scientific sensibility – S. Poriau (MD, Mensana)
3. Treated, optimized & aware you achieve your goal: body health and/or peak performance... – C. Maes (PhD, Mensana)

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Plot your path with Mensana

- Would you like us to come to your event, company, school or senior house with our Mobile Mensana Health Facility?
- Would you like to visit Mensana in Sijsele-Damme, Belgium?
- Would you like to partner with Mensana?



Mensana - MCSBR

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1. Open brief vanwege het Obesitas Forum aan de Heer Rudy Demotte, Minister Sociale Zaken en Volksgezondheid, Federale regering 10/05/2005.
<http://www.vvvd.be/doc/Open-Brief-Minister-Demotte-Obesitas.pdf>
2. Gezondheidsenquête 2004, Boek III – Leefstijl – Voeding – Voedingsstatus – p. 207
<http://www.iph.fgov.be/epidemie/epinl/crospln/hisnl/his04nl/his32nl.pdf>
3. De Lorenzo et al. indicate that NWO may be characterized as normal body weight and BMI, but a high fat mass (>30%). De Lorenzo A, Martinoli R, Vaia F, Di Renzo L. Normal weight obese (NWO) women: an evaluation of a candidate new syndrome. In: Nutrition, metabolism & cardiovascular diseases. Nutr Metab Cardiovasc Dis 1006;16:513-23 (Epub 2006 Mar 3)
4. Gezondheidsenquête 2004, Boek III – Leefstijl – Voeding – Voedingsstatus – p. 207
<http://www.iph.fgov.be/epidemie/epinl/crospln/hisnl/his04nl/his32nl.pdf>
5. Gezondheidsenquête 2004, Boek III – Leefstijl – Lichaamsbeweging – p. 6
<http://www.iph.fgov.be/epidemie/epinl/crospln/hisnl/his04nl/his31nl.pdf>