



STRENGTH RATINGS OF THERAPEUTIC MAGNETS

According to United States Food and Drug Administration (FDA) 1997 Science Forum Abstract # J-4, the National Institutes of Health (NIH) National Institute of Environmental Health Sciences has identified a recommended limit of magnet field strength. Clinical studies established that when benign (inactive) cancer cells were exposed to a maximum of 50 milliTeslas (mT) for up to 60 minutes, in the majority of cases this did not stimulate growth of the cancer cells, although in a few cases they did begin to grow. (Document # IAG-Y1-ES-0006). The clinical interpretation of this finding is that 50 mT is the maximum magnet strength which begins to present the risk of causing or aggravating cancerous cells. Therefore, it can be concluded that 50 mT is the absolute maximum magnet strength for safe use in magnet therapy.

Teslas is a scientific unit that describes the property of "induction." In the commercial magnet industry, the more common unit is Gauss. The conversion rate is 100 microTeslas (μT) = 1.0 Gauss, and 1 milliTesla (mT) = 10 Gauss. Accordingly, the absolute maximum safe Gauss rating for therapeutic magnets is 500 Gauss. In response to similar clinical studies, the strength limits for magnet therapy devices set by the ministries of health of many European countries is 30 mT, which equals 300 Gauss.

It is also important to consider that the strength limit for magnet therapy products for the purposes of international shipping is 5.25 mT, or 52.5 Gauss. This is the maximum strength of magnets which DHL will ship internationally, as shipments radiating stronger magnetic fields will cause severe interference with the airplane's electronics and navigation systems. For bulk shipping, the magnets can be arranged for positive and negative charges to partially cancel each other out, making the package fall within this limit. Magnets worn or used in-flight by individuals traveling on passenger aircraft, however, do not cancel themselves out. The recommended maximum strength for magnet therapy products in international commerce, therefore, is 12.6 Gauss, which is 4.1 times less than the shipping strength limit, allowing for safe personal use of sufficiently strong therapeutic devices by several passengers.

The natural strength of the Earth's magnetic field, as measured at the surface, is 50 microTeslas (μT), or 0.5 Gauss (Serway, R.A., Physics for Scientists and Engineers, 3rd Edition, 1990), which can vary slightly from location to location.

Many magnets commercially offered as therapeutic magnets are known in the industry as "number 8" magnets, which are approximately 4,050 Gauss, more than 8,000 times stronger than the Earth's natural field, and more than 8 times stronger than magnets proven by the US National Institutes of Health to be capable of causing cancer. The most widely used strength of magnets commonly sold for magnet therapy purposes is 300 Gauss, which is only 40% less than magnets proven to be capable of causing cancer, and the absolute maximum safe limit allowed by most countries.

The strength of the [NEVOTON® Biocorrector™](#) magnet therapy products recommended by ITEM is approximately 10 mT, or 100 Gauss, which is approximately 20% of the maximum magnet strength recommended by the NIH, and is 200 times stronger than the Earth's geomagnetic field. Therefore, the Biocorrector™ is perfectly safe, while proven to be strong enough to effectively improve health and provide pain relief.

ITEM believes strongly in the concept of subtle energy exchange as a means to alleviating pain and improving health, rather than direct applied "force." That is why we recommend the [NEVOTON® line of products](#). NEVOTON® products will not overwhelm the body as many other commercial magnets can, but instead strengthens your own energy field so you can build "resistance" to health-related ailments.