



# *The* HORIZON

VOLUME 3, ISSUE 9, SEPTEMBER 2025

- THE PRODUCTIVITY PARADOX
- TRISOMIC RESCUE: EXPLORING DOWN SYNDROME AND CRISPR GENE EDITING
- TRUST YOUR GUT: THE SCIENCE BEHIND INTUITION AND WHEN TO RELY ON IT
- THE TRANSFORMATIVE POWER OF BARIATRIC SURGERY FOR SEVERE OBESITY AND TYPE 2 DIABETES REMISSION



# DEAN'S DESK



Dear students, we at Grodno State Medical University strive to provide students with top-quality education, but that's not it. GRSMU is also a hub for Scientific, Cultural, and Sports related activities. We wholeheartedly acknowledge that International students are an integral part of our university, and we take immense pride in that. Grodno State Medical University is glad to work with students from different countries and provide them with a stage to represent their nation and culture.



**DEAN OF FACULTY OF INTERNATIONAL STUDENTS  
DR. ALEKSANDER ALEKSANDEROVICH STENKO**

GRSMU celebrates its uniqueness in diversity, for in its true essence our university is a junction where students from various backgrounds and cultures come together as one big family. GRSMU has always encouraged students to explore further and beyond in every field they try their hands at. I hope that you like the novel concept of 'The Horizon' - a magazine that serves as a platform for the students to voice their opinions, share their takes and present their points of view.

'**The Horizon**' is a medium of extended communication where we can learn a lot from one another. I highly appreciate this initiative and personally support it. I look forward to reading the interesting blogs written by you.

# WELCOME TO THE HORIZON



“We all have fascinating stories to share!” For the longest time, I have had this idea of starting a magazine. But not just any conventional magazine, one that shall serve as a platform for the students and alumni of International faculty at Grodno State Medical University to share their stories. A platform that enables students to share their takes on various curricular and extracurricular aspects of medicine. Thus, the idea of **‘The Horizon’**, came to life.



**DR. MEHUL H. SADADIWALA, FOUNDER,  
CLASS OF 2023**

**‘The Horizon’** will be a creative intersection where students can freely give commentaries about Lifestyle, Culture, Productivity tips, and more. Throughout the years, many individuals at GrSMU have inculcated valuable skills and gained experience with a fair share of success in various disciplines. Maybe you run a successful YouTube channel or an educational website, or maybe you are a successful student-researcher or an educator, and so much more. ‘The Horizon’ enables students to share their personal experiences. The insights that you share will encourage other students to take further strides and explore future possibilities.

**‘The Horizon’** is supported directly by the Dean of the International Faculty, and it will operate under the supervision of the International Students’ Scientific Committee. Students from 1st to 6th year, and even graduates, can submit their blogs to this magazine. The articles should directly or indirectly revolve around student life to share knowledge and the collective growth of students.

For inquiries and submissions.

📷 - grsmu\_science

✉ - grsmuscience4life@gmail.com, socialmedia3490051@gmail.com



# EDITOR'S DESK



“I'm Fathima Aysha Hafeel, a final-year medical student at Grodno State Medical University and the editor of Horizon's Summer Issue 2025. This edition celebrates the vibrant journey of medical college life, aiming to weave narratives that inform and inspire. At Horizon, we share insights on academic challenges, personal growth, and the compassion that defines healthcare. My vision is to foster a supportive community where every voice matters, exploring innovative ideas and celebrating achievements. Join me in this exciting journey, united by our passion for medicine and our commitment to making a difference.”



**FATHIMA AYSHA HAFEEL,**  
**EDITOR, JUL - SEP 2025**



**ERIIYANU OREKOYA**  
**EDITOR, JUL-SEP 2025**

“Hey everyone, it's Eriiyanu Orekoya! I'm beyond excited to step into the Editor in Chief role for The Horizon's Summer Season 2025. For me, this is all about creating a cozy corner where we can share laughs, lean on each other, and get pumped about the wild world of healthcare. Let's make this mag a safe little place that lifts us up and keeps us inspired!”

And a message to our dearest readers, we would like to invite you all, students and alumni, to share with us the blogs that directly or indirectly revolve around student life, to share knowledge and experiences that has had an impact on your growth within and outside the bounds of our university.

Concluding, let us alter the limitations of our individual efforts and collectively explore limitless Horizons.

## Cover Credits

Yenuka De Alwis

For enquiries and submissions,

📧 - grsmu\_science

✉ - grsmusciencelife@gmail.com, socialmedia3490051@gmail.com

# THE PRODUCTIVITY PARADOX

This blog explores how being overly productive is detrimental for your overall wellness by leading to burnout and offers practical strategies to overcome the compulsive need to constantly do more.

WRITTEN BY  
MARYAM  
ANOOSHA

CLASS OF 2026

## INTRODUCTION

Welcome to the trap of over productivity, a condition where the need to be constantly “doing” overrides the need to simply be. In today’s hustle-driven culture, productivity is often glorified as the ultimate measure of success. We’re taught that being constantly busy is synonymous with being valuable, ambitious, and disciplined. While often glamorized, this relentless pursuit of productivity can quietly erode your mental and physical wellbeing, eventually leading to burnout, anxiety, and disconnection. This is particularly prevalent among medical professionals given the increased workload and pressure to balance both personal and professional life.

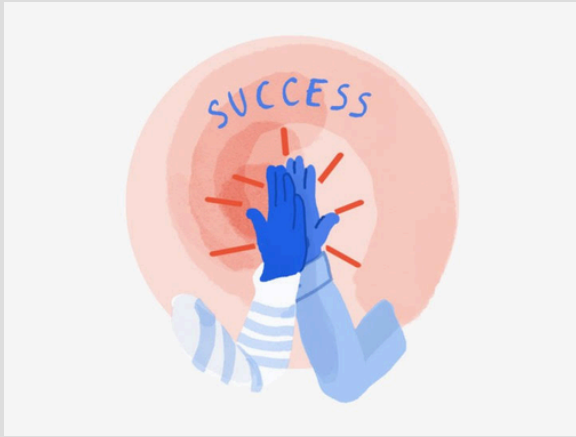


## THE HIDDEN COST OF OVER PRODUCTIVITY

At first glance, productivity feels empowering. You’re crossing off to-do lists, meeting deadlines, and pushing forward. But when productivity becomes a compulsion, when you’re unable to relax without guilt, it starts doing more harm than good.

What could be the indicators that you may be slipping towards a detrimental outlook?

- Failure to rest: if you are constantly in hustle mode, turning it off after work may be challenging. Having constant thoughts of work during your time off could be an indicator of this. It might take time to adapt to this mind set but it is crucial for your well-being to get an adequate amount of rest.
- Guilt about failing to accomplish everything: even a single task left on the schedule undone can be unsettling for some. Many mental health experts suggest that this is one of the most detrimental signs as it leads to a lack of self-accomplishment, which is frequently a major cause of anxiety, and as a result, we push oneself to an extremely high standard in order to be successful. This is often seen in clinical years where doctors are continuously assessed by the fellows
- Burnout is inevitable: working long hours and over productivity can be stressful, yet some can manage this. Laura Stack identifies six signs of over productivity, including constant “on” mode, guilt during rest, and alienation from loved ones. The same report highlights that burnout often stems from neglecting the basics: proper sleep, nutrition, and emotional connection



#### THE PSYCHOLOGY BEHIND PRODUCTIVITY OBSESSION

Much of it comes down to identity and validation. According to Harvard psychologist Dr. Natalie Dattilo, many people base their self-worth on how much they achieve. This creates a toxic loop where productivity becomes a coping mechanism for anxiety or low self-esteem. This excessive drive is not just a personal issue, it's reinforced by modern work culture, which glorifies 24/7 availability and punishes rest as laziness.

#### HOW TO OVERCOME THIS COMPULSION TO ALWAYS BE "ON"

You don't have to abandon ambition or structure to find balance. The key is to shift from compulsive productivity to intentional living. Here's how:

- Redefine what "success" looks like: Instead of measuring success solely by output, consider a more holistic definition. How fulfilled do you feel? Are your relationships thriving? Do you have time for rest, hobbies, and reflection? You can be effective without being maxed out. Productivity should support your well-being, not sabotage it.
- Schedule downtime and honor it: Just as you plan work tasks, schedule downtime. Block out time for rest, hobbies, or simply doing nothing. But more importantly, honor that time without guilt. Think of rest as a recharge, not a reward.

**Practice mindful slowness:** The constant drive to be productive often pulls us out of the present moment. Practicing meditation, deep breathing, or simply noticing your surroundings can help anchor you in the now. Mindfulness helps you become more intentional with your energy, making it easier to recognize when you're slipping into overdrive.

- **Set healthier boundaries around work:** Overcommitment often masks fear of letting others or ourselves down. Laura Stack emphasizes the importance of clear limits to prevent overextension. This might mean saying no to after-hours emails, creating a shutdown ritual at the end of your day, or even delegating tasks that don't need your full attention. Boundaries protect your well-being and actually improve performance over time.
- **Seek professional help if needed:** If compulsive productivity is affecting your health or relationships, therapy can help. Cognitive behavioral therapy, in particular, can assist in untangling unhealthy beliefs about worth, rest, and success.



## EMBRACING A HEALTHIER DEFINITION OF SUCCESS

In a world obsessed with speed and output, it can feel radical to slow down. But in doing so, you reclaim your health, your joy, and your humanity. Being overly productive might win short-term praise, but it steals from your long-term well-being. True success comes not from being constantly busy, but from aligning your actions with your values and making space for rest, reflection, and real connection. You are not a machine. And you don't need to earn your worth through exhaustion.



### References:

1. <https://www.health.harvard.edu/mind-and-mood/beyond-the-grind-toxic-productivity-and-how-it-sabotages-your-well-being>
2. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9799176/>
3. <https://theproductivitypro.com/blog/2020/01/too-far-ahead-of-the-pack-six-indicators-of-overproductivity/>



# TRISOMIC RESCUE: EXPLORING DOWN SYNDROME AND CRISPR GENE EDITING

This blog contains an exploration of Down syndrome through the lens of trisomic rescue and CRISPR gene editing. It explains the biological basis of the condition, how emerging gene-editing technologies may help balance genetic imbalances, the ethical concerns surrounding these interventions, and the future potential for improving quality of life for individuals with Down syndrome.

WRITTEN BY  
DILMI RAVEENA  
YAHATHUGODA  
CLASS OF 2026

## INTRODUCTION

Down syndrome, also known as trisomy 21, is a genetic condition caused by having an extra copy of chromosome 21. This chromosome issue affects roughly 1 in 700 newborns and results in a range of physical and intellectual challenges. Over time, research has been done on potential treatments to reduce the effects of this genetic disorder. One area with potential assurance is "trisomic rescue," the ability of organisms with an extra chromosome to make up for genetic imbalances. The latest developments in the use of CRISPR gene editing have set up opportunities for studying trisomic rescue in Down syndrome and may lead to new treatments.



## UNDERSTANDING DOWN SYNDROME

Down syndrome is a result of nondisjunction which takes place during meiosis and that in turn produces gametes with an extra chromosome. When these gametes combine with a normal gamete the resulting zygote has three of chromosome 21. This extra material in the chromosomes interferes with normal development which in turn gives features like low muscle tone, unique facial structure and varying degrees of intellectual disability.

Down syndrome's impact goes beyond physical characteristics. Also, it is a fact that people with Down syndrome are at greater risk for certain health issues which include congenital heart defects, gastrointestinal problems and early onset Alzheimer's disease. Also, what we see is that the cognitive and developmental issues which come with Down syndrome present very different pictures in each individual which in turn requires very personalized approaches to education and support.

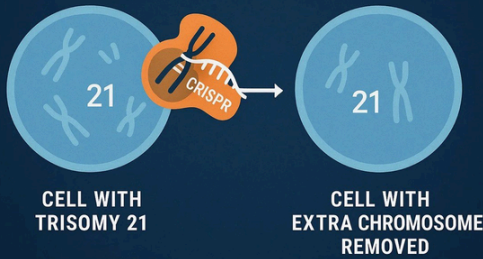
## TRISOMIC RESCUE MECHANISMS

Trisomic rescue refers to the phenomenon where an organism with an extra chromosome appears phenotypically normal or less affected than one might expect. The following facts help explain how trisomic rescue may occur:

1. **Gene Dosage Compensation:** A cell may utilize various strategies to balance the expression of the genes present on an extra chromosome, be it by amplifying or repressing gene expression equilibrating towards set ratios.
2. **Genomic Imprinting:** Certain genes are expressed relative to the parent in which it was inherited from, which may in some cases influence the effect of a trisomy. The impact of an extra chromosome may be less severe if the chromosome in question is derived from a specific parent.



## USING CRISPR TO REMOVE EXTRA CHROMOSOME IN DOWN SYNDROME



3. Cellular Mechanisms: An extra chromosome may, in some cases, be over mitigated by some cellular functions, lessening the impact of the additional genetic material. With respect to development, the organism can thus develop normally or almost normally. Cellular resilience may be enhanced through compensatory pathways.

### THE CONTRIBUTION OF CRISPR TECHNOLOGY TOWARDS TRISOMIC RESCUE

The impact of CRISPR was felt in the area of genetics and gene editing as it enabled faster editing of the gene sequence with its introduction and development. CRISPR has become a favorite tool in research as it can make sequenced genome edits, which can further facilitate the examination of trisomic rescue in Down syndrome. It focuses on the following aspects:

1. Edit Gene Expression: Attempting to turn off the targeted gene expression linked with the extra chromosome can lead to a balanced gene copy level. This approach is aimed primarily at reducing some of the consequences of trisomy 21.

2. Restore Normal Chromosomal Structure: The use of CRISPR for the induction of certain chromosomal changes for the elimination of the extra chromosome and balance the genetics is still proved to be more of an imaginative thought than proof of its validity and this is in its early stages.

3. Investigate Cellular Mechanisms: Researchers can use CRISPR to offset extra chromosomal genetic materials and study how a cell adjusts to this added genetic material, through cellular adaptation processes, as a means of identifying viable interventions.

## ETHICAL CONSIDERATIONS

Addressing issues like consent, the definition and scope of “normal”, and the societal consequences brought about by gene editing in comparison to the application of CRISPR for down syndrome. There are ethical difficulties in altering human genetics, especially when it comes to the more sensitive topics of altering human intellect.

More health concerns are brought up by the possibility of “off target impacts,” in which CRISPR modifies certain regions of the genome without meaning to. As technology develops, attention must be paid to moral regulations and public discussions to resolve these problems.

## PROSPECTS FOR THE FUTURE

The inclusion of CRISPR technology for Down syndrome research proposes a new direction with TRISOMIC RESCUE. However, this idea still has a long way to go in regards to development. The research will center on the following:

1. Preclinical Studies: There’s a need to guarantee the approach is safe and effective, human trials will only be preceded by exhaustive testing on animals.

2. Longitudinal Studies: This technology’s assessment will be incomplete without evaluating the likely impacts of the change on the subject’s genetics over time.

3. Research with people with Down syndrome and their relatives will be most helpful in framing the issues to be addressed. Their experience will be invaluable.



## CONCLUSION

Trisomic rescue is a fascinating area of study that might transform our understanding of Down syndrome and its management. Trisomic rescue and CRISPR gene editing present new opportunities to improve the quality of life for those with Down syndrome and minimize the negative impacts of the extra chromosome. As research advances in this area, future genetic therapies will be influenced by finding a balance between innovation, ethics, and patient advocacy.

Thanks to technological developments, there is hope for a better future for those with Down syndrome.



### References:

1. <https://doi.org/10.1093/pnasnexus/pgaf022>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6760570>
3. <https://www.sciencedirect.com/science/article/pii/S0023683722007139>
4. [https://www.researchgate.net/publication/389073546\\_Trisomic\\_rescue\\_via\\_allele-specific\\_multiple\\_chromosome\\_cleavage\\_using\\_CRISPR-Cas9\\_in\\_trisomy\\_21\\_cells](https://www.researchgate.net/publication/389073546_Trisomic_rescue_via_allele-specific_multiple_chromosome_cleavage_using_CRISPR-Cas9_in_trisomy_21_cells)



# TRUST YOUR GUT: THE SCIENCE BEHIND INTUITION AND WHEN TO RELY ON IT

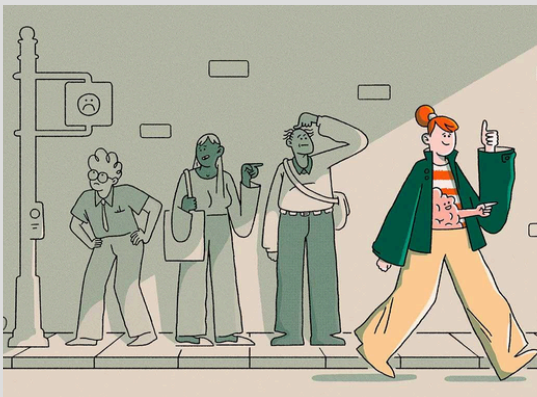
This blog contains insights into the power of gut feelings, uncovering the science behind intuition and its role in shaping our decisions. It highlights when you should rely on your instincts, when to pause and analyze, and practical ways to sharpen this hidden inner guidance for wiser choices in life.

WRITTEN BY  
RONESH  
PRIYASHAN  
CLASS OF 2027

## INTRODUCTION

We have all experienced it, that inexplicable feeling in our stomachs urging us to make a decision without logical explanation. Whether it's avoiding a dark alley, choosing a life partner, or making a split-second judgment in a crisis, intuition, often called a "gut feeling", plays a crucial role in our lives. But is there scientific evidence to support trusting these instincts? And when should we override them in favor of rational analysis?

Recent research in neuroscience, psychology, and even microbiology reveals that intuition is far from mystical. It's a sophisticated cognitive process rooted in unconscious pattern recognition, emotional intelligence, and even the gut-brain axis. This article explores the science behind intuition, when to trust it, and when to question it.

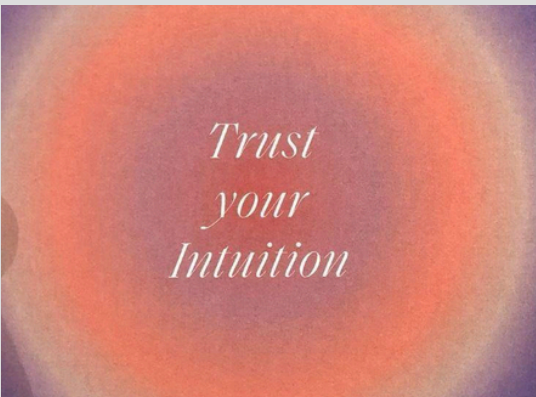


## WHAT IS INTUITION?

Intuition is the brain's ability to process vast amounts of information unconsciously and deliver rapid judgments. Neuroscientist Joel Pearson defines it as "the learned, productive use of unconscious information for better decisions or actions".

It draws on past experiences, patterns, and emotional memories stored in our subconscious mind. Unlike logical analysis, which is slow and deliberate, intuition provides instant insights that often feel like a sudden "knowing" or physical sensation. For example, when you are at the bookstore, you feel drawn to a particular book without knowing why.

The brain acts as a predictive machine, constantly comparing incoming sensory data with stored memories to anticipate outcomes. When there's a mismatch, such as spotting danger before consciously recognizing it, we experience intuition. For example, a radar operator in the Gulf War instinctively identified an enemy missile despite identical signals from a friendly jet. Years later, scientists discovered he had subconsciously detected a timing discrepancy in the radar blips.



A woman avoids a dimly lit street, only to realize later she sensed a threatening presence. These cases illustrate how intuition integrates subtle environmental cues faster than conscious thought.

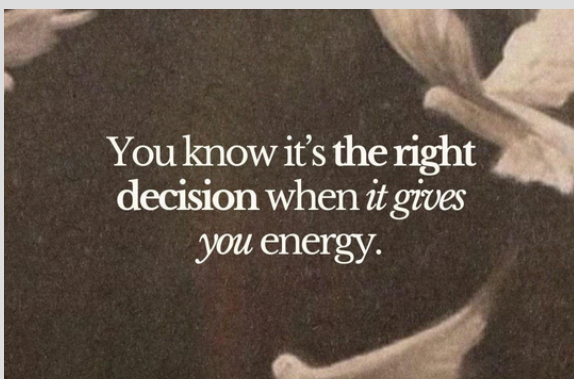
The phrase "trust your gut" isn't just metaphorical. The enteric nervous system (ENS), a network of 100 million neurons lining the digestive tract, communicates directly with the brain via the vagus nerve. This "second brain" influences mood, decision-making, and even risk perception. Gut microbes produce neurotransmitters like serotonin and dopamine, affecting emotions. Stress disrupts gut motility, while a healthy microbiome improves cognitive function.

### WHEN SHOULD YOU TRUST YOUR GUT?

Intuition excels in specific scenarios:

**When Aligned with Your Core Needs:** Intuition can help you stay true to your values and needs. For instance, if a job offer looks good on paper but feels wrong, your intuition may be detecting a misalignment with your long-term goals.

**Complex Decisions with High Stakes:** Contrary to popular belief, intuition is most reliable in complicated choices like marriage, career moves rather than simple ones like ordering from a menu or picking cereal. These complex decisions are just the kind of decisions that seem to benefit the most from a more emotional, intuitive thought process. Emotions, emerging from the unconscious, often reflect deeper wisdom than overanalyzing pros and cons.



**Situations Where You Have Expertise:** Experience sharpens intuition. Pilots, firefighters, and CEOs—trained in high-pressure environments—often rely on gut feelings honed through repetition. For instance, smokejumper Wag Dodge survived a wildfire by inventing an "escape fire" against his team's instincts.

**Moral or Ethical Dilemmas:** when logic fails to resolve conflicts between right and profitable, intuition aligns decisions with core values.

Detecting Danger or Deception; subtle cues (micro-expressions, body language) trigger gut warnings before conscious awareness. Studies show people with high "disgust sensitivity" avoid pathogens more effectively. Physical sensations like goosebumps, a relaxed posture, or a "light" feeling often indicate positive intuition. Conversely, tension, nausea, or sweaty palms may signal warning signs.

### WHEN SHOULD YOU QUESTION YOUR GUT?

Intuition isn't infallible. Beware of:

- **Strong Emotions (Fear, Euphoria)** : Anxiety or excitement can masquerade as intuition.
- **Pearson's SMILE framework** advises avoiding gut decisions when emotionally compromised.
- **Unfamiliar Contexts** : Intuition relies on learned patterns. In novel environments (e.g., a foreign culture), it may mislead.
- **Low-Probability Events** : Humans poorly estimate risks like shark attacks or lottery wins. Analytical thinking better handles statistics.
- **Cognitive Biases** : Unconscious biases (e.g., favoring people like ourselves) distort intuition. Diversity counters this "groupthink".

### HOW TO HONE YOUR INTUITION?

- **Practice Metacognition:** Reflect on past decisions to identify when your gut was right or wrong.
- **Practice Mindfulness:** Meditation and mindfulness help you become more attuned to your inner world and physical sensations, making it easier to recognize intuitive signals.
- **Listen to Your Body:** Pay attention to bodily sensations like tension, butterflies, or ease. These are often your intuition speaking.
- **Clear Your Mind:** Fatigue and hunger cloud judgment. Sleep and nutrition optimize intuition.
- **Journaling:** Writing down your thoughts and feelings can help you identify patterns and insights that arise from your subconscious.
- **Seek Solitude:** Spending time in nature or away from distractions allows your mind to process information unconsciously.
- **Creative Activities:** Painting, writing, or playing music can activate intuitive thinking by engaging the right hemisphere of the brain.

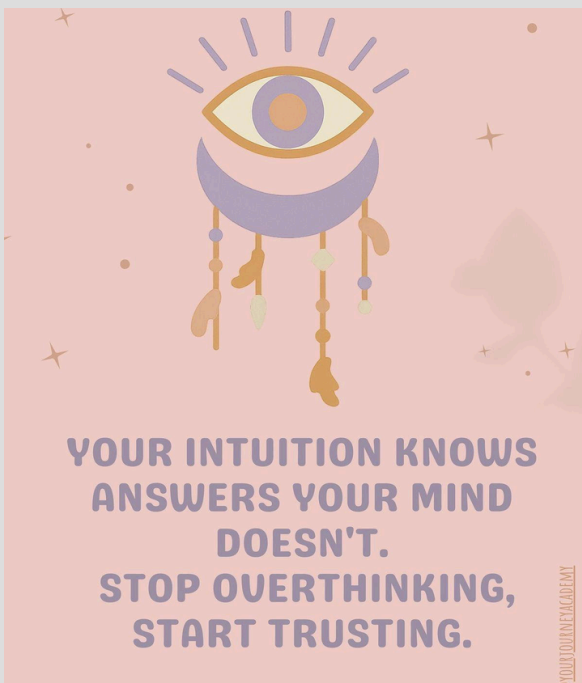


- Test Assumptions: Challenge biases by seeking diverse perspectives .
- Combine with Analysis: Use intuition to generate ideas, then validate with data .

## CONCLUSION

Intuition is a powerful tool that evolved to help humans survive and thrive. It is not a magical force but a neurobiological process that leverages our past experiences and pattern-recognition abilities. By learning to trust your gut, while also recognizing its limitations, you can make more holistic and effective decisions.

As Albert Einstein famously said, "The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honors the servant and has forgotten the gift." It's time to reclaim that gift.



## References:

1. <https://doi.org/10.1093/pnasnexus/pgaf022>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6760570>
3. <https://www.sciencedirect.com/science/article/pii/S0023683722007139>
4. [https://www.researchgate.net/publication/389073546\\_Trisomic\\_rescue\\_via\\_allele-specific\\_multiple\\_chromosome\\_cleavage\\_using\\_CRISPR-Cas9\\_in\\_trisomy\\_21\\_cells](https://www.researchgate.net/publication/389073546_Trisomic_rescue_via_allele-specific_multiple_chromosome_cleavage_using_CRISPR-Cas9_in_trisomy_21_cells)

# THE TRANSFORMATIVE POWER OF BARIATRIC SURGERY FOR SEVERE OBESITY AND TYPE 2 DIABETES REMISSION

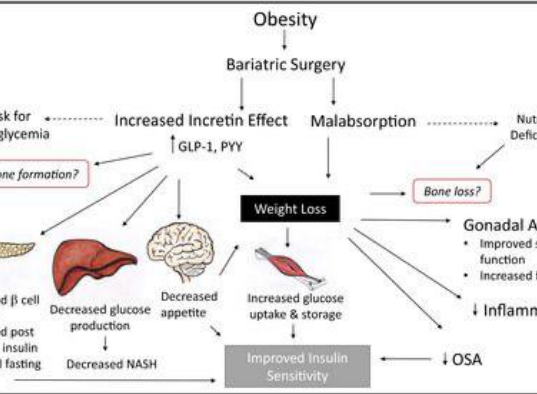
This blog contains an in-depth exploration of bariatric surgery and its transformative role in treating severe obesity and type 2 diabetes. It discusses when surgery is indicated, how it compares to medical management, its effects on weight loss and blood sugar control, and its impact on long-term health, diabetes remission, and quality of life.

WRITTEN BY  
THISARANI  
KAVINDYA  
CLASS OF 2026

## WHAT IS BARIATRIC SURGERY?

Obesity is a very powerful risk factor for the development of type 2 diabetes and is an integral component of the care of diabetes itself. Bariatric surgery produces significant loss of weight and remission of diabetes in most patients. Glycemic control is regained after surgery through a combination of caloric restriction that is imposed, increased sensitivity of insulin and higher insulin production.

There is accumulating evidence supporting the use of bariatric surgery to treat type 2 diabetes mellitus in the body mass index (BMI) of at least 35 kg/m<sup>2</sup> population. In the diabetic and obese population, remission of the disease (defined as normal glycemic control without diabetic therapy) is induced by bariatric surgery in more than three-fourths of the time and with higher success using the procedure of Roux-en-Y gastric bypass compared with the procedure of the laparoscopic adjustable gastric banding procedure.



## INDICATIONS AND CONTRAINDICATIONS FOR BARIATRIC SURGERY

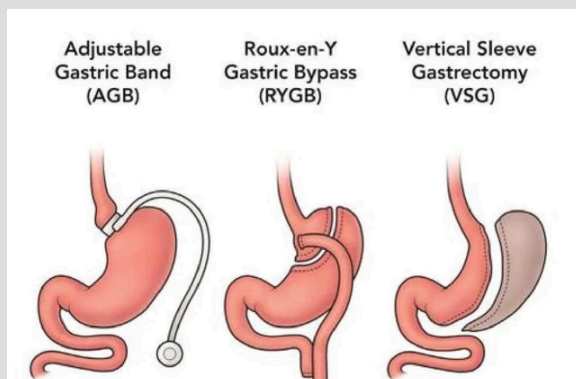
The indications for bariatric surgery come from body mass index (BMI) and the severity of associated medical disease. Obese patients with a BMI of 40 kg/m<sup>2</sup> or greater with no concomitant medical disease and for whom bariatric surgery would pose no excessive risk are to be considered candidates for one of the above procedures.

Candidates for surgery would also be those with a BMI of 35 kg/m<sup>2</sup> or more and at least one major comorbidity of obesity—type 2 diabetes, high blood pressure, high lipid levels, obstructive sleep apnea (OSA), non-alcoholic fatty liver disease (NAFLD), gastroesophageal reflux disease (GERD), asthma, venous stasis disease, severe urinary incontinence, crippling arthritis, or markedly impaired quality of life.

## CONTRAINDICATIONS

There is no absolute surgical bariatric contraindication but a range of relative contraindications. These include severe heart failure, unstable coronary artery disease, end-stage lung disease, active cancer therapy, portal hypertension from whatever cause, drug dependence or alcoholic dependence, and low intellectual capacity. Crohn's disease is a relative contraindication in LRYGB. Furthermore, since the operations are performed under a general anaesthetic, a contraindication to the receipt of a general anaesthetic would also be a contraindication to the procedure.





## MEDICAL MANAGEMENT VS. BARIATRIC SURGERY: A COMPARISON

Long-term results between bariatric surgery and medical management reveal a considerable disparity in efficacy in treating type 2 diabetes. Most of the patients experience considerable and long-lasting loss of weight after undergoing bariatric surgery that frequently results in remission or improvement of associated health issues of obesity, including type 2 diabetes. Success in the long term is reliant on the adherence of the patient to appropriate dietary and lifestyle alterations and continued medical care.

## BLOOD SUGAR CONTROL

Bariatric surgery affords superior control of glucose levels compared with ordinary medical management. Long-term comparisons show that patients undergoing bariatric surgery experience a statistically significant decrease in the level of the valuable long-term glucose control indicator in the bloodstream, HbA1c, the decrease showing greater magnitude between 7 and 12 years postoperation.

## WEIGHT LOSS RESULTS

Bariatric surgical patients lose a considerable body weight on average, with an average loss of 20% of body weight within a period of seven years. By comparison, medically managed patients achieve on average a loss of only 8% of body weight in the same period of time.

## DIABETES COMPLICATIONS

Effects of bariatric surgery additionally move beyond regulation of blood sugar and induction of weight loss in order to effectively decrease long-term complication risk of diabetes. Specifically, long-term analyses found that at seven years post-surgery, 18.2% of bariatric surgical patients were in remission compared with only 6.2% in the medical management arm.

## PATIENT QUALITY OF LIFE

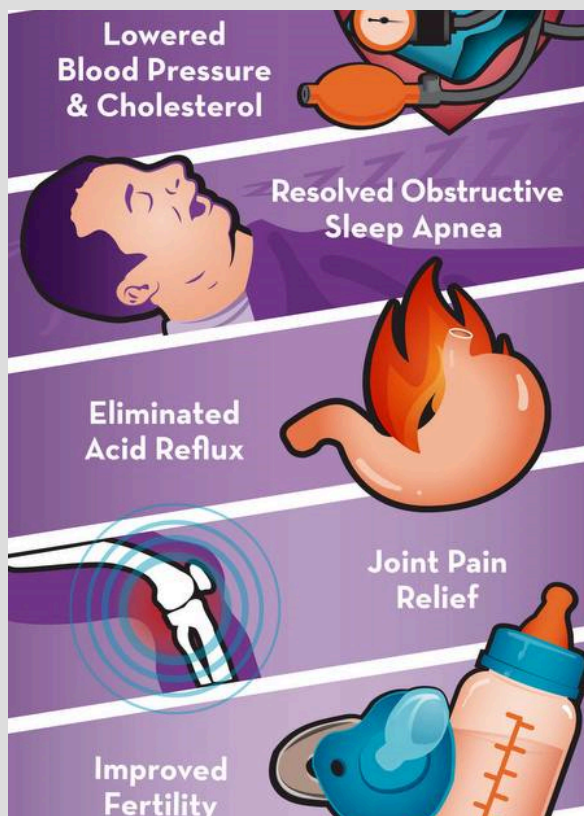
### Physical Health

Effective diabetes treatment can lead to major improvements in physical health, including reduced high cholesterol, better management of obstructive sleep apnea, and fewer obesity-related complications. Adherence to treatment is strongly associated with fewer physical health problems and improved overall well-being.

## THE IMPACT OF BARIATRIC SURGERY ON TYPE 2 DIABETES MELLITUS AND THE MANAGEMENT OF HYPOGLYCEMIC EVENTS

New studies have unveiled the benefit of bariatric surgery in type 2 diabetes mellitus (T2DM) and obese subjects. Several parameters are identified to be of prognostic significance in the outcomes like the ABCD score (age, BMI, C-peptide, and duration of disease), HbA1c level, fasting glucose in the blood, and incretins such as glucagon-like peptide-1 (GLP-1) and gastric inhibitory peptide (GIP).

The DiaRem score containing the factors of age, level of HbA1c, medication consumption, and insulin consumption has also been utilized to predict remission of T2DM but it has a few drawbacks. A systematic literature search in PubMed and Google Scholar using the terms gastric bypass and T2DM and bariatric surgery and GLP-1 and GIP and post-bariatric hypoglycemia has been conducted.



Restrictive-malabsorptive surgeries are the most successful in the treatment of T2DM patients predominantly due to the modulation of appetite through gastrointestinal hormones that lead to the suppression of hunger and the increased levels of satiety. The current review addresses the impact of bariatric surgery on T2DM and hypoglycemic event management post-intervention.

Postoperative hypoglycemia is a dreaded complication of bariatric surgery, particularly when it progresses to neuroglycopenia with loss of consciousness or with seizure. Prevention is largely reliant on strict dietary alterations, that is, carbohydrate restriction and avoidance of carbohydrate-rich and high glycemic-index foods. Further research is needed to establish the pathophysiologic basis and refine the management of postoperative hyperinsulinemic hypoglycemia.

## CONCLUSION

Bariatric (metabolic) surgery has been shown to:

- ❖ Improve overall glycemic control
- ❖ Induce remission of type 2 diabetes
- ❖ Reduce long-term complications and mortality in diabetic patients

Currently, it is the most successful therapy against morbid obesity with uncontrolled diabetes. The risk of death associated with bariatric surgery is significantly less in comparison with the risk of death from diabetic complications.

Bariatric surgery has the ability to cure diabetes in as many as 90% of the population and achieve diabetes remission in approximately 78%. Moreover, with advances in surgical expertise, technology, and sequential postoperative care, the rate of complications has fallen sharply.



## References:

1. <https://obesitymedicine.org/blog/weight-loss-surgery/>
2. <https://www.ncbi.nlm.nih.gov/books/NBK513285/>
3. <https://www.frontiersin.org/journals/nutrition/articles/10.3389/fnut.2025.1603670/full>
4. <https://www.diabetes.org.uk/about-diabetes/type-2-diabetes/remission/weight-loss-surgery>
5. <https://jamanetwork.com/journals/jama/article-abstract/2819412>

Our Editors	
1	Mehul Hitesh Sadadiwala (Jan-Mar, 2023)
2	Anjelo Leard (Apr-Jun, 2023)
3	Krishna K. Gandhi (Apr-Jun, 2023)
4	Zaakiya Ganem Zamzam (Jul-Sep, 2023)
5	Hardik Bakulkumar Mevawala (Jul-Sep, 2023)
6	J.N.A. Chamathi Dewanga De Silva (Oct-Dec, 2023)
7	Fathimath Naufa (Oct-Dec, 2023)
8	Aroosha Ibrahim (Jan-Mar, 2024)
9	Mitchell Martha Arufinu (Jan-Mar, 2024)
10	Poorna Gayan Wattaladeniya (Apr-Jun, 2024)
11	Bhalala Priyank Batukbhai (Apr-Jun, 2024)
12	Fathimath Jazla Hassan (Jul-Sep, 2024)
13	Grishma Rajendrakumar Patel (Jul-Sep, 2024)
14	L.R. Sathisha Deshan Liyanage (Oct-Dec, 2024)
15	Maryam Anoosha (Oct-Dec, 2024)
16	Divya Dilshara (Jan-Mar, 2025)
17	Oso Jesutofunmi Eunice (Jan- Mar,2025)
18	Fathmath Shajaa Jihaad (April-June, 2025)
19	Kishnani Rohankumar Sadhuram (April- June, 2025)
20	Eriyanuoluwa Orekoya (Jul-Sep, 2025)
21	Fathima Aysha Hafeel ( Jul- Sep, 2025)

**Cover Photo Credits**  
Yenuka De Alwis