Our Story

The story began six years ago, when Dr. Nedaa Al-Jasim’s patient asked her, “I would like a full-volume, natural-looking upper breast following breast augmentation, I do not want a rounded implanted look, nor a subtle upper breast. What are my options?”

It was as if she planted a seed by her question – namely, can a new breast implant design improve over existing round and teardrop-shaped implants? and if so, how?

Dr. Al-Jasim realized this was no easy task – especially in a market in which the last market entrant was designed in the 1990s.

Since then, breast implant innovations to address improved aesthetic outcomes have continued along two frontiers:

1. Manufacturers innovation in silicone technology by balancing safety versus softness of silicone gel, changing the gel-shell fill ratio.

2. Improved surgical techniques developed by leading surgeons with the experience and art for innovation aiming at providing thick soft tissue coverage over the implant edges.

To further innovate, it would be necessary to move beyond the confines of this knowledge and experience, take a creative and unexplored avenue of research, and integrate the separate but interrelated sciences of anatomy and physics, with an eye towards improving the aesthetic outcomes in breast augmentation.

Dr. Nedaa Al-Jasim is a family doctor with 25 years’ experience in drug discovery and development. She applied the scientific methods of drug R&D to device innovation, starting by observation of current implant designs with a thick rounded edge that needs to be camouflaged.

She formed the "round edge" hypothesis...
Anatomical and Scientific Basis of DefyGravity™ Innovation

1- Forming a Hypothesis Through Reasoning;

2-Revisiting Breast’s Anatomy: Novel Insight on Breast Anatomy Pertinent to Breast Shape;

3- A Design Inspired by Voluminous Young Perky Breast Shape: to understand the aesthetic issues in breast augmentation outcomes, one must appreciate the aesthetic secrets of nature’s aesthetically pleasing biologic design.

1- Forming a Hypothesis Through Reasoning

Dr. Al-Jasim made astute observation and examining possibilities in order to reach her specific logical conclusion that: If a spherical breast implant design characterized by thick rounded edges (arrowed) underlies the aesthetic complications of improperly filled upper breast, visible and palpable implant edges, wrinkling and rippling, then the solution lies in a non-spherical implant design.

We call this the “Round Edge” Hypothesis.
The figure above demonstrates the mechanics of DefyGravity non-spherical design:

The DefyGravity design is characterized by tapered edges with acute angels; flat implant base diverging towards the chest wall; linear profile of the upper portion; thick center with thin periphery locating the fill volume where it is needed, relocating the implant "center of gravity"; and an implant vertical height unlinked to the width.

In DefyGravity implant, the ratio of implant top thickness (UU) /implant profile (PP) is 1/9, therefore, increasing the implant profile doesn’t negatively impact the breast upper pole aesthetic outcomes vs. round and teardrop ratio of approximately 1/2 and 1/3 respectively.

DefyGravity implant footprint is relaxed; converging towards the underlying surface and meet the surface at a small convergent angle vs. round and teardrop wide divergent angle; leaving a space that will ultimately become fibrosed and distort the shape of the augmented breast.

The red arrows demonstrate the round thick edges of round and teardrop implant, and tapered thin edge of DefyGravity are red arrowed. These mechanics will result in easy surgical placement and improved aesthetic outcomes.

2- Novel Insight on Breast Anatomy Pertinent to Breast Shape

Dr. Al-Jasim revisited the aesthetic tissue component of the breast's anatomy.

Her focus was the breast fatty tissue, the ONE and only tissue that gives the breast volume, proportion and youthful perkiness. This study yielded fresh unexpected insights:

The fatty tissue of the upper breast above the horizontal nipple meridian is shaped like a triangular pyramid.
Dr. Al-Jasim began an in-depth analysis of the physical characteristics of the “breast pyramid”, and discovered that the pyramid shape has the power to overcome a multitude of upper breast aesthetic complications:

1. The implant's vertical height is not linked to its width, and it reaches up to directly to fill the upper pole of the breast,

2. The tapered edges seamlessly transition to the surrounding chest wall,

3. The edges are inherently wrinkle-free.

3- DefyGravity Inspiration

To understand the aesthetic issues in breast augmentation outcomes, one must appreciate the aesthetic secrets of nature's aesthetically pleasing biologic design.

DefyGravity design was inspired by perky young breast anatomy with a proportionate upper breast/lower breast ratio, wherein the volume of the upper breast (above the nipple line) is slightly smaller than the volume of the lower breast (below the nipple line) as shown in the figure below.
This figure also demonstrates the concept of the “breast pyramid” shape of this invention, describing the upper breast, and its seamless transition to the upper chest wall.

**DefyGravity vs, Teardrop implant design**

The major difference between the two designs is that DefyGravity mimics “young” perky proportionate breast, while teardrop shaped implant mimics a “mature” breast with volume concentration in the lower breast.

Finally, all the ideas that were uncovered were used to meet the advances in knowledge on breast anatomy and physics into precise design of breast implants, using our newly coined term, the breast pyramid, as a title for our competitive branded patented DefyGravity™ breast implant that will optimize women experience and satisfaction.