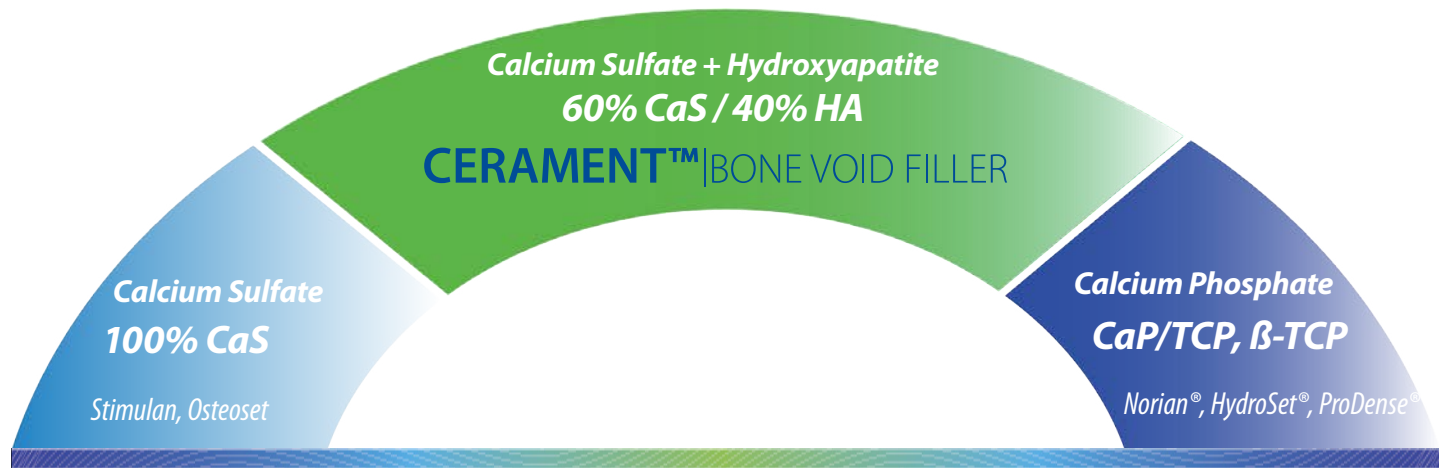


# Understanding the Calcium Spectrum



## RESORBS TOO FAST NO BONE REMODELING

### Characteristics

- Resorbs faster than bone growth (3-6 weeks in soft tissue, 6-12 weeks in bone)<sup>1</sup>
  - » brittle and quickly loses strength<sup>1</sup>
  - » incites inflammation<sup>2</sup>
  - » may weaken structural support<sup>1</sup>
  - » post-operative wound drainage<sup>3</sup>
- Unable to provide long-term mechanical support or act as a scaffold for tissue regeneration because it dissolves relatively quickly<sup>1</sup>
- Temperature sensitive<sup>1</sup>

### Common Applications

- Voids
- Also used with infection in bone and soft tissue<sup>4</sup>

## RESORBS AT RATE OF BONE GROWTH RAPID BONE REMODELING

### Characteristics

- Resorbs at the rate of bone growth due to HA which slows the resorption of the CaS (6 -12 months)<sup>5-7</sup>
- Rapid and complete bone remodeling at 6-12 months<sup>5-7</sup>
- Bone growth occurs from 'outside-in' and 'inside-out'
- Injectable. Moldable. Drillable.
- Will set in wet or dry field
- Highly visible under fluoroscopy
- Not temperature sensitive
- Not exothermic

### Common Applications

- Large and small voids
- Benign bone cysts and tumors
- Fractures and non-unions
- Voids where bone remodeling is important for future intervention (revision procedures)

## RESORBS TOO SLOW VERY SLOW TO REMODEL

### Characteristics

- Resorbs slower than bone growth (up to 24 months to several years)<sup>8</sup>
- Highly dense material with limited porosity<sup>8</sup>
- When mechanical strength is higher than surrounding bone it may result in stress shielding, delayed fractures and subsequent bone resorption at the bone-implant interface<sup>8</sup>
- Bone growth through 'creeping substitution'
- Temperature sensitivity impacts setting time<sup>8</sup>

### Common Applications

- Large and small voids
- Fractures and non-unions



OUR MISSION is to improve the lives of patients suffering from bone disorders that cause bone voids, lead to injury, breakage, pain, and reduced quality of life.

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