

# 12<sup>TH</sup> ANNUAL PHARMA MIDDLE EAST CONGRESS

September 25-26, 2017 Dubai, UAE

## Applications of polymers in medical technology

**Mahmoud H Romeih**

Ministry of Higher education and Scientific Research, Egypt

During the last two decades, significant advances have been made in the development of biocompatible and biodegradable materials for medical applications. Following a brief description and review of reinforced polymeric and related systems for bone replacement strategies, the use of biodegradable metals and polymers is discussed as temporary bone support systems to allow bone regrowth and healing, including screws. The use of these materials for a variety of nonpermanent stents is described in the context of novel stent structures, including shape memory materials and the fabrication of auxetic structures to achieve stent shapes. Biodegradable biomedical materials applications and Biodegradable (biomedical) orthopedic implant applications during the healing process in the human body have involved sutures and suture anchors, screws, staples, pins, and rods to support weakened or fractured areas, especially involving bone injuries or osteoporosis. Magnesium, magnesium alloys, and polymeric materials (both natural and synthetic) form the more important biodegradable materials. Magnesium and magnesium alloys provide higher mechanical strength and stiffness which may be especially important in orthopedic procedures where high loads are involved. On the other hand, degradable polymers are extremely effective for drug encapsulation for controlled release in the body.

romeih.ca@gmail.com

## Notes: