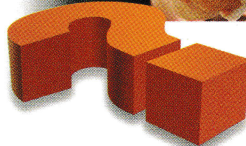




Why Plastics for HealthCare?



It scores more than other conventional materials in terms of...

- Sterility • Enhanced Safety • Increased Comfort
- Innovative Applications • Cost-Effectiveness

THEME PAVILION An Overview

A. Medical & Healthcare Plastics Knowledge Platform

Including Posters, Audio-Visuals, Models, Samples & Publications Highlighting...

- Why Plastics For Healthcare ?
- Major segments of plastics in medical field i.e. Healthcare, Medicare & hygiene
- Medical Applications & Important Developments
- Global Trends & Emerging Opportunities with facts & Figures.
- Supplier Opportunities

B. Exhibits By The Technology, Materials, Machinery & Product Suppliers

C. Seminars & Interactions with Industry Experts, Live Demonstrations

Medical Care Revolutionized By Plastics

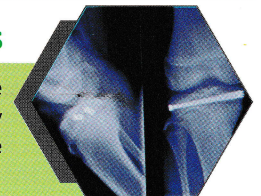
Plastics have played a significant role in revolutionizing healthcare. With the advancements in the healthcare industry, plastic has proved to be one of the few versatile materials that has been able to adapt along with the dynamic nature of the industry. Find out the amazing ways that researchers are using medical grade plastics to heal and even replace human organs.



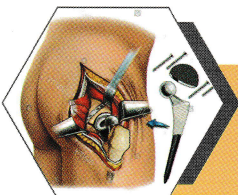
Prostheses

Plastics are now the primary choice for prostheses. They can help align, support and correct, but they don't stop there. Self-healing, hyper-realistic plastic prosthetics are right around the corner. Their properties closely mirror the flexibility and sensitivity of human skin, and plastic muscles can even be used to obtain mobility in artificial limbs.

Resorbable Implants



Disappearing, dissolvable plastic implants are not science fiction. Today, doctors are beginning to use stents made from corn-based plastic to improve blood flow in clogged arteries. Traditional stents are made from metal, and they have been known to cause additional cardiac problems. A plastic stent, on the other hand, is safely absorbed by the body after its job is complete.



Hip Socket Replacements

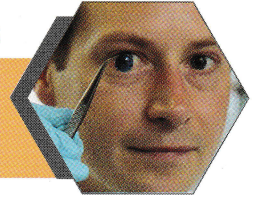
Hip replacement surgery is one of the most common procedures performed in Europe and North America, but metal-on-metal replacement hip sockets are more prone to premature failure and other challenges than plastic alternatives. A hip socket made with carbon fiber-reinforced polyetheretherketone (PEEK) plastic has been shown to possess higher strength, better wear resistance and better biocompatibility than metal counterparts, mirroring the natural way force is transmitted to better replicate a natural human hip.



Packaging

Plastic packaging is helping to keep us safe. Innovations in plastic medication bottles are making medication management easier—devices such as prescription bottle timers and plastic clip-on magnifiers are helping those in need. But plastic packaging isn't limited to pills and syrups. Today, donated blood is collected in PVC bags instead of glass bottles. Plastic helps protect each bag's valuable content, extend shelf life and decrease the risk of bacterial contamination.

Artificial Corneas



Eye injuries or chronic inflammations can impair a patient's sight, but not all these can be treated by transplant. Prosthetic corneas can be used instead, made from special silicone that's 0.3 to 0.5 millimeters thick, highly transparent, flexible and made with biomechanics similar to those of a natural cornea.

Hearing Aids



A plastic implant can help bring sound back to the ears of people with severely impaired hearing. A small plastic device consisting of numerous different components can bypass the damaged cells that caused patients' hearing loss in the first place to directly stimulate the auditory nerve, thereby enabling them to hear again.

Pill Capsules

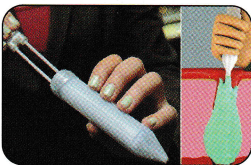


Plastics are what enable time-release capsules to disperse exactly the right dosage of medicine at exactly the right time. Tartaric acid-based polymers gradually break down to release the pill's contents. This helps eliminate the risk of patient discomfort and even accidental overdose.

Lifesaving Technologies To The Rescue



Plastic Heart : A total artificial heart made with plastics can extend the lives of heart failure patients while they're waiting for a transplant. The plastic heart replaces both ventricles and the four heart valves—and is adding years to the lives of loved ones.



Plastic Foam : A novel use of foam polyurethane plastic may help stabilize trauma patients with serious internal injuries. The U.S. military has funded development of ResQFoam, a self-expanding foam plastic that is injected into

the abdomen to help stop internal hemorrhaging. The foam expands inside the body cavity, applying pressure to the wound and conforming around the injured tissue, greatly slowing blood loss to improve the chances of survival.

Preventing The Pain



Painless Plastic Injections : Needle injections can be painful, but easier ways to deliver medications are underway. One currently under development is a tiny patch made of many plastic "microneedles" that dissolve once

inserted into the skin, releasing the drug at the same time. Another is the MucoJet, a small plastic bulb and cylinder that is held against the inside of the cheek and squeezed, releasing medication through the mouth's mucosal layer and into the body.

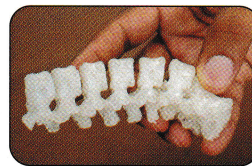


Bacteria-Resistant Plastics :

Millions of people unfortunately develop infections acquired at hospitals that often occur when thin layers of bacteria colonize on exposed surfaces of medical devices. Researchers are working on a non-stick

polymer coating to inhibit bacteria formation. The plastics could be used to make catheters or medical equipment to help ward off preventable disease.

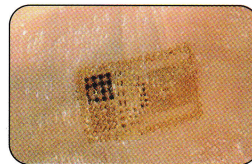
A Helping Hand... Or Organ?



3D-Printed Body Parts :

We can 3-D print toys, tools, cars, and more. While 3-D printed human body parts aren't quite here yet, they're closer than you may think. Researchers are working on printing various body parts such as kidneys, skin,

bones, cartilage, tissues, blood vessels, and more made from diverse cell types while using plastics to help keep the part's structure in shape. And today, 3-D printed plastic body part models are used as research and practice for complex, tough surgeries.



Self-Healing Plastics:

Researchers are developing new materials with plastics that can self-heal—and they're using them to develop artificial skin and muscle. The plastic skin mimics the flexibility and sensitivity of human skin and may enable

new prosthetics, while the plastic muscle may be used to help move artificial limbs, to replace missing limbs, or even for advanced robots. And both may have the ability to heal themselves, just like human tissue.

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The All India Plastics Manufacturers' Association

AIPMA House, A-52, Sreet No. 1, MIDC Marol, Andheri (E), Mumbai-93, India

T : +91 22 6777 8899 / 841 / 847 / 851 F : +91 22 2825 2295

E : sales@plastivision.org, info@plastivision.org W : www.plastivision.org

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www.medicalplasticsindia.com