The Advances in Prosthetics

What they are?
Prosthetics are artificial limbs that help people move more freely and can benefit them better than usual. The way people lose their limbs is by having a defect at birth, an accident, illness, or a wartime injury for those in the military.

History
• Prosthetic first began about 1500 B.C.
• Egyptians were the pioneers that started creating prosthetics.
• The first prosthetic was a functioning prosthetic toe created by the Egyptians.
• Started with wooden peg legs and arms, then moved toward iron, plastics, carbon fiber composites, and even ABS plastic or PEI polyamide (nylon) made from a 3-D printer.

Prosthetic Arm
Made of Carbon Fiber
• The most commonly used prosthetic material for an arm and leg is carbon fiber because it’s stronger than steel while weighing much less.
• The carbon fiber arm’s function by using several circuits and wires located inside the arm.
• Carbon fiber and the other material that goes with it to make it function properly cost about $8,000 to $15,000 dollars.

Prosthetic Leg
• Rehabilitation teaches ambulation skills; it includes exercises to improve general conditioning and balance, to stretch the hip, and to strengthen all extremities, and to help patients tolerate the prosthetic they will receive for the patient’s lower body.
• People have a 10 to 40% increase in energy amount after below-the-knee amputation and a 60 to 100% increase after above-the-knee amputation.

Prosthetic Arm
Made from a 3-D Printer
• The second most commonly used prosthetic arms made from 3-D printers because they are cheaper and easier to build than other material.
• The prosthetic arm made from a 3-D printer functions by using the muscles of their hands, the muscles of their forearm, or even their shoulder muscles and movements.
• Prosthetic arms made from 3-D printers can cost from $100 to $600 dollars.

Different Types of Prosthetics & How They Function
• Throughout the years people have been able to make prosthetics eyes, arms, legs, teeth, and even heart valve valves.
• The new materials can make any type of prosthetic lighter, stronger, elastic, more realistic, and cheaper.
• Each prosthetic function differently and in their own specialized way to improve a person’s physical abilities. In order to perform tasks on others with a normal physical appearance.
• A prosthetic eye function by using their nerves to let them see normal.
• A prosthetic ear drum functions as a hearing aid for others.
• A prosthetic tooth works by allowing it to adapt to a person’s mouth.
• A prosthetic heart valve valve works by regulating blood pressure for a person.

Cons of Prosthetic
• Wearing prosthetics too much can cause a large amount of blisters if not worn properly.
• Skin problems.
• Mental toughness is needed to wear prosthetics.
• Rehabilitation and balance to wear their prosthetic is needed at times as well.