Abstract—This paper is discussing the effects of the Hug Machine on people who have autism, mainly with children who have the medical condition. Studies and experiments have shown that when a patient has regular session with the machine have positive affect and are able to handle their symptoms better.

Autism is a very prevalent problem in our society today. 1 out of every 88 child in America is diagnosed with Autism and this disease has seen a ten-fold increase over the past 40 years. Who knows how far the disease increase in the future. The disorders vary in many different ways from difficulty social interaction, verbal and nonverbal communication, and repetitive behaviors. Some though with Autism excel at school, music, or art even though their social skills suffer. The Hug Machine provides help for these problems that they have to face everyday. Children with Autism are more like to have a lot of stress and anxiety from their environment stressors. This stressors are the real reason we have the Hug Machine today.

The Hug Machine provides a source of calm and relaxation sensation for those with Autism. The device was invented by Temple Grandin in 1965. She was an adult fighting the battle of Autism and had to suffer with severe stress and anxiety problems. She had the need to be held or touch by another person, but the stress and anxiety when she tried to interact with others was to great for her to handle. Then one day she was observing cattle being branded on her aunt’s Ranch in Arizona. She notice once the cattle was in the squeeze chute it seem to calm down almost instantaneously. From this experience, she came to the conclusion that when deep pressure is applied a relaxing sensation overcomes the one having the pressure being applied too. With this sudden realization the idea for the Hug Machine was born.

A pilot study was performed with the Hug Machine. This study investigated the effects of deep pressure on arousal and anxiety reduction in autism with Gradin’s device. They took 12 children with autism were randomly assign to either an experimental group or a placebo group. The placebo group would not receive deep pressure but still be in the disengaged Hug Machine. Every test subject received two 20 min sessions a week over a 6 week period. The results were good. Those in the experimental group showed positive signs in the calming effects of the Hug Machine, especially those with high levels of arousal or anxiety.

Unfortunately the machine cost’s over 4000 dollars to make, which is way out of the price range of any average parent trying to help out their child. This issue was solved by a Biomedical Engineering Students form Carnegie Mellon University. They came out with a design that replicated the effects of the machine by a fraction of the cost. The idea was so incredible that it won first place in a national student design competition in 2007.

In conclusion, Autism is a terrible disease that people have to deal with all their lives. Every day people fighting this have to deal with intense anxiety and stress all from their environment. The Hug Machine provides relief and calmness that they could have never felt before. Making their lives a little easier which is the true purpose of Biomedical engineering.

REFERENCES: