**NEEDLE THROUGH BALLOON ILLUSION**

**Station Script**

Description of the Illusion

The magician blows up a balloon and pushes a darning needle into it and out the other side without popping the balloon.

The “method” to the illusion is:

1. Blow up the balloon part way and tie its end off.
2. Lightly coat a darning needle with Vaseline or machine oil.
3. Using a twisting motion (i.e. rolling the darning needle between the fingers) push the front end of the needle gently into the balloon wall near the tied-off stem.
4. After the needle enters the balloon, point the end of the needle toward the pole of the balloon opposite the stem.
5. Push the needle through the balloon wall, again, using a twisting motion.
6. Pull the needle all the through the wall.
7. Use the needle to pop the balloon by pushing the needle’s point through the side of the balloon wall.

What Is Happening

Neuroscientists refer to this illusion as a classic “**Physics” illusion**. These illusions actually obey the physical laws. They are just presented in ways that appear to defy physical laws. They are presented with enough “flair” to be entertaining. The needle pierces the un-stretched areas of the latex balloon wall and the Vaseline coating on the needle partially seals the region between the needle and the wall of the balloon; thereby, reducing the amount of air that escapes.

Un-stretched Wall of the Latex Balloon:

Balloons are constructed with latex rubber and the wall thickness of the balloons is greater at each end. Furthermore, latex consists of long carbon chains. Therefore, when the balloon is inflated, the wall in the middle of the balloon stretches more than the ends. Since the middle portion of the balloon wall is more stretched, it is thinner than wall portion at the ends. Hence, there is more rubber at the poles of the balloon through which to push the needle point, and there is more elasticity allowing the rubber to press itself against the wall of the needle.

Vaseline Coating:

The Vaseline coating is a viscous substance with long carbon chains making it more likely to adhere to the walls of the balloon (which, also, consists of carbon chains) and to the needle as it passes through the balloon wall. Therefore, it is more likely to seal the area between the two walls and to retard the escaping air.

When the needle passes through the balloon walls, some air escapes. Therefore, if the balloon is not popped quickly after the illusion is completed, the audience will see it slowly deflate. Therefore, one should pop the balloon to “destroy the evidence” before the audience notices the deflation. Popping the balloon adds a bit of “flair” to the illusion, as the popping sound will startle the audience.