



G81 **Caveat Emptor: A Series of Deaths Related to Subcutaneous Silicone Injections in Transgender Males**

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After attending this presentation, attendees will learn about the history and consequences of the practice of illicit subcutaneous silicone injections as well as the circumstances, findings and available methods of testing in cases involving subcutaneous silicone injections in the forensic setting.

This presentation will impact the forensic community and/or humanity by alerting forensic professionals about the circumstances, findings and available methods of testing in cases involving subcutaneous silicone injections, as well as informing or increasing awareness of a largely underground, poorly documented and dangerous trend which may be gaining popularity despite the potentially significant morbid and lethal risks.

This presentation highlights a series of three deaths resulting from subcutaneous silicone injections obtained illegally outside the medical setting for cosmetic purposes. The goal of this presentation is to review the circumstances and findings of the cases in light of the general characteristics of the typically utilized silicone-containing compounds, their legal and illegal uses, the methods and procedures used during the injections and the complications of subcutaneous silicone injection as a result of inadvertent systemic siloxane exposure. The presentation will impact the forensic community and/or humanity by alerting forensic professionals about the circumstances, findings and available methods of testing in cases involving subcutaneous silicone injections, as well as informing or increasing awareness of a largely underground, poorly documented and dangerous trend which may be gaining popularity despite the potentially significant morbid and lethal risks.

In Houston, Texas, a series of three deaths within a three-month period in 2003 due to pulmonary silicosis were caused by the illegal practice of subcutaneous silicone injection for cosmetic enhancement of the hips and breasts among local transgender males. Gas chromatographic / mass spectrometric analysis indicated the presence of the cyclic siloxanes, hexamethylcyclotrisiloxane, octamethylcyclotetrasiloxane and decamethylcyclopentasiloxane, in fluids collected from hip and breast injection sites, and from syringes and containers of siloxanes seized during the investigations. These low molecular weight siloxanes may serve as chemical marker substances in the confirmation of siloxane injection.

This unusual cause of death occurred with alarming frequency over a relatively brief period of time due to a sporadic surge in popularity of the practice of subcutaneous siloxane injection among the local transgender community. The injections had been administered by two independently operating agents with no medical training who were soliciting in bars frequented by transgender males. Although ethnically diverse, the three individuals involved were young transgender males who had received several injections on at least one previous occasion, and their clinical presentations, hospital courses and autopsy findings were similar.

Siloxanes are used in preparations such as hair conditioners, skin care products, and industrial lubricants. While their topical use is common, siloxanes are not intended for internal use. Subcutaneous injection of siloxanes (silicone) presents the risk of direct introduction of silicone compounds into the systemic circulation, where they can accumulate in the pulmonary macrophages (pulmonary silicosis), resulting in hemorrhage, respiratory failure and death. Because of the potentially lethal consequence, injection of siloxanes into subcutaneous tissue is illegal in the United States.

Isolated case reports documenting the sequelae of subcutaneous silicone injections have been presented since the 1970's due to occasional trends, particularly in the transgender subculture, where silicone injections are sought as an easily accessible, non-surgical cosmetic procedure to create a more feminine appearance. The materials required for the injections are easily obtained through cosmetic supply companies (non-medical grade silicone), medical supply companies (medical grade syringe lubricants) or any supplier of viscous liquid silicone (including brake fluid), and the injections are commonly administered in large veterinary syringes. The substance is injected into the dermis and superficial subcutaneous fat, usually in a circular cluster of small punctures. There it accumulates as filler, distending the tissue with the objective of creating a more tense and rounded outline.

Multiple injections are usually required for contour enhancement of the hips and breasts, in particular. Most individuals require additional applications to maintain the enhanced appearance over time. No estimates are available for the number of individuals who have received such injections or for the effects of cumulative silicone exposure of a given individual who has been repeatedly injected. The clandestine nature of the practice and the pervasive social stigma associated with transgender community does not lend itself to obtaining accurate statistics. The persistence of the practice worldwide and anecdotal evidence would suggest, however, that the reported incidence of lethal sequelae of subcutaneous silicone injection is infrequent relative to the number of individuals who have received these injections.

Increased public awareness appears to have had a significant effect in the Houston area. After the local authorities began publicizing the dangers of subcutaneous silicone injections and prosecuting the individuals administering them, no more deaths related to the practice have been reported as of July 2005.

Pulmonary Silicosis, Silicone, Transgender