CALIT2 4th Annual International Symposium on Technology in Medical Devices

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Kyosei Co., Ltd. HQ (Tokyo)

Koken Chemical Co., Ltd.
(Yokohama)

South Korea Branch (Daegu)

Kyosei Factory Thailand (Ayuttaya)

Yongjin Astech Co., Ltd.
(Partner, South Korea)

Kawagoe Factory (Kawagoe)

Kyosei USA, Inc. (Irvine, CA)

Kyosei USA Laboratory (Irvine, CA)

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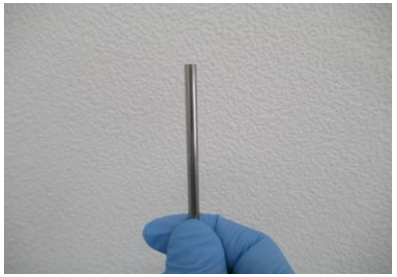
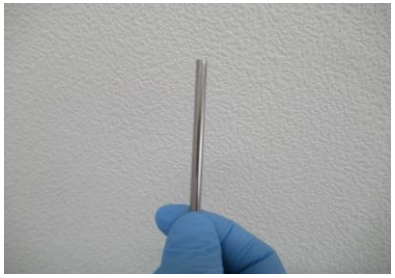
3D-Photoetching Process

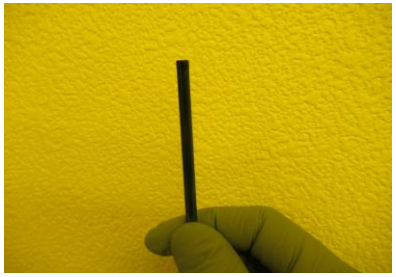
Raw Tube



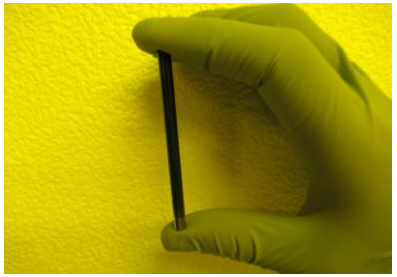
Clean Tube



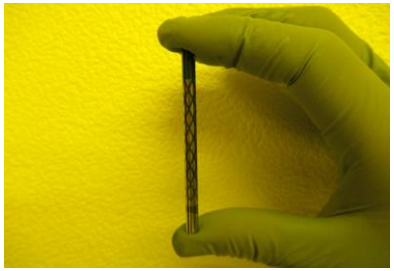
Photoresist Coating



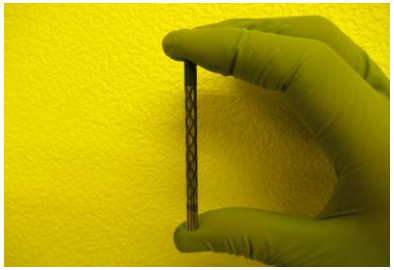
Exposure



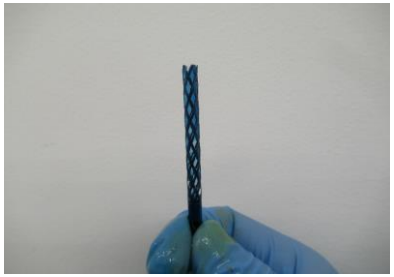
Develop



Inner Photoresist Coating



Etching



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Removal/Cleaning

3D-Photoetching Overview

Kyosei original etching method

There are a variety of applications, but the main focus at the moment are tubes. Kyosei has created many prototypes of stents and with the current manufacturing method being laser cutting, we hope 3D-photoetching will become an alternative option.

With the addition of a new lab located here at CALIT2, we are focused on improving and perfecting this technique. Moving forward we have seen success in creating longer tubes (up to 2 meters) and different materials. The current focus is to develop a consistent way to etch Nitinol.

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3D-Photoetching Advantages

Advantages	Description	Enablers
Material	**Stainless Steel** **Developing NiTi*	• Heatless procedure
Durability	Expected to be **stronger** than laser cut products	• Crack-less compared to heat affected zones in laser cutting
Integrity	High **smoothness**	• No dross • No burr
Downsizing	**80 micron** diameter tubes	• 3D-Etching
Cost	Expected to be more **cost effective** than laser cutting	• Can process more than 1 tube at a time

Thank you for your time.

ETCHING + ONE

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