# A New Catheter Design for Precise Stent Delivery

Tech ID: 29140 / UC Case 2012-218-0

## SUMMARY

UCLA researchers in the Department of Radiological Sciences have designed a catheter that increases stent delivery precision.

## BACKGROUND

Current endovascular procedures use a metallic expandable stent, which is laser-cut or braided, to expand a lesion or to cover a target lesion. Braided stents are limited by “foreshortening”, a phenomena where the stent length changes while it is constrained and unconstrained. Foreshortening is also observed in laser cut stents, and makes it challenging for physicians to place a stent with high accuracy. One way to increase the accuracy of stent placement is to put a radiopaque marker in the target lesion.

## INNOVATION

UCLA researchers have developed a novel catheter design with high stent delivery precision. Multiple radiopaque marker bands are used to indicate both the true length and unconstrained length of the stent. This new information will allow physicians to estimate the length of a tortuous lesion and to anticipate foreshortening of stents with multiple sizes. This design will simplify the stent delivery procedure in catheters while increasing precision.

## APPLICATIONS

Stents for treating endovascular aneurysms

## ADVANTAGES

- High precision stent delivery
- Simplified delivery procedure
- Easy to integrate into existing systems

## PATENT STATUS

| Country | Type | Number | Dated | Case |
|---|---|---|---|---|
| United States Of America | Issued Patent | 9,872,735 | 01/23/2018 | 2012-218 |

## RELATED MATERIALS

- Murayama, Yuichi, Satoshi Tateshima, Nestor R. Gonzalez, and Fernando Vinuela. "Matrix and bioabsorbable polymeric coils accelerate healing of intracranial aneurysms." Stroke 34, no. 8 (2003): 2031-2037.
- Murayama, Yuichi, Fernando Viñuela, Satoshi Tateshima, Joon K. Song, Nestor R. Gonzalez, and Michael P. Wallace. "Bioabsorbable polymeric material coils for embolization of intracranial aneurysms: a preliminary experimental study." Journal of neurosurgery 94, no. 3 (2001): 454-463.

## CONTACT

UCLA Technology Development Group
ncd@tdg.ucla.edu
tel: 310.794.0558.

## INVENTORS

- Tateshima, Satoshi

## OTHER INFORMATION

### KEYWORDS

Braided stents, Stent delivery, foreshortening, radiopaque markers, catheter design

### CATEGORIZED AS

- **Medical**
  - Devices
  - Disease: Cardiovascular and Circulatory System

### RELATED CASES

2012-218-0