

# Studies on Resonance®

## METALLIC URETERAL STENT AND INTRODUCER

Click on each source below to view the abstract or article.

| Sources   | Topics addressed                   |          |              |              |        |                      |                |
|---|------------------------------------|----------|--------------|--------------|--------|----------------------|----------------|
|   | Management of ureteral obstruction | Drainage | Encrustation | Indwell time | Safety | Patient tolerability | Cost reduction |
| 1. Asakawa J, Iguchi T, Tamada S, et al. <b>Outcomes of indwelling metallic stents for malignant extrinsic ureteral obstruction.</b> <i>Int J Urol.</i> 2018;25(3):258–262.   | X                                  |          |              |              |        |                      |                |
| 2. Benson AD, Taylor ER, Schwartz BF. <b>Metal ureteral stent for benign and malignant ureteral obstruction.</b> <i>J Urol.</i> 2011;185(6):2217–2222.  | X                                  |          |              |              |        | X                    |                |
| 3. Borin JF, Melamud O, Clayman RV. <b>Initial experience with full-length metal stent to relieve malignant ureteral obstruction.</b> <i>J Endourol.</i> 2006;20(5):300–304.  |                                    | X        |              |              |        |                      |                |
| 4. Cauda V, Fiori C, Cauda F. <b>Ni-Cr-Co alloy ureteral stent: scanning electron microscopy and elemental analysis characterization after long-term indwelling.</b> <i>J Biomed Mater Res B Appl Biomater.</i> 2010;94(2):501–507. |                                    | X        | X            | X            | X      | X                    | X              |
| 5. Chen Y, Liu C-Y, Zhang Z-H, et al. <b>Malignant ureteral obstruction: experience and comparative analysis of metallic versus ordinary polymer ureteral stents.</b> <i>World J Surg Oncol.</i> 2019;17(1):74.                     | X                                  | X        |              | X            | X      | X                    | X              |
| 6. Christman MS, L'Esperance JO, Choe CH, et al. <b>Analysis of ureteral stent compression force and its role in malignant obstruction.</b> <i>J Urol.</i> 2009;181(1):392–396.   | X                                  |          |              |              |        |                      |                |
| 7. Frederick L, Ellimoottil C, Kadlec A, et al. <b>Cost analysis of metallic stents for chronic ureteral obstruction: a multicenter study.</b> <i>Urol Pract.</i> 2017;4(1):21–24.  | X                                  |          |              | X            |        |                      | X              |
| 8. Gao W, Ou T-W, Cui X, et al. <b>Metallic ureteral stent in restoring kidney function: nine case reports.</b> <i>World J Clin Cases.</i> 2020;8(13):2841–2848.  | X                                  | X        |              | X            | X      | X                    |                |
| 9. Kadlec AO, Ellimoottil CS, Greco KA, et al. <b>Five-year experience with metallic stents for chronic ureteral obstruction.</b> <i>J Urol.</i> 2013;190(3):937–941.   | X                                  |          |              | X            |        |                      |                |

SOURCES (10–18) CONTINUED ON THE NEXT PAGE



### Resonance® Metallic Ureteral Stent Set

**CAUTION:** U.S. federal law restricts this device to sale by or on the order of a physician (or a properly licensed practitioner).

**INTENDED USE:** Used for temporary stenting of the ureter in adult patients with extrinsic ureteral obstruction. Intended for one-time use.

**CONTRAINDICATIONS:** There are no known contraindications.

**WARNINGS:** These stents are not intended as permanent indwelling devices. • The stent must not remain indwelling more than twelve (12) months. If the patient's status permits, the stent may be replaced with a new stent. • Patients should be checked at regular intervals utilizing techniques such as abdominal X-ray (KUB film). Patients using calcium supplements must be more closely monitored for possible stent encrustation. The stent must be removed if encrustation hampers drainage. • Individual variations of interaction between stents and the urinary system are unpredictable. • Change in urine viscosity may hamper drainage. • Hematuria and Incontinence may indicate fistula formation. • If the package is opened or damaged when received, do not use. Visually inspect with particular attention to kinks, bends and breaks. If an abnormality is detected that would prohibit proper working condition, do not use. Please notify Cook for return authorization. • This device is designed for single use only. Attempts to reprocess, sterilize, and/or reuse may lead to device failure and/or transmission of disease. • The stent contains

nickel which may cause an allergic reaction in individuals with nickel sensitivity.

**PRECAUTIONS:** This product is intended for use by physicians trained and experienced in urology techniques. Standard techniques for urology procedures should be employed. Do not use this device for any purpose other than the stated intended use. The Resonance stent must only be used with the positioning system provided and vice versa. Do not force components during removal or replacement. Carefully remove the components if any resistance is encountered. Improper handling of the stent prior to insertion into the ureter may harm the functionality of the stent. Bending, stretching or any other type of improper handling may deform the stent. It is important that the stent is handled with care.

**POTENTIAL ADVERSE EVENTS:** Potential adverse events associated with indwelling ureteral stents include: allergic reaction to nickel • bladder spasm • diminished urine drainage/stent occlusion • fever • fistula formation including arterioureteral fistula • hemorrhage • hydronephrosis • infection • insufficient urine drainage • loss of renal function • pain/discomfort • perforation of kidney, renal pelvis, ureter and/or bladder • peritonitis • pyuria • stent degradation/fracture • stent dislodgement/migration • stent encrustation • stent failure • tissue ingrowth • ureteral reflux • urinary symptoms (frequency, urgency, incontinence, dysuria, hematuria) • urinary tract tissue erosion.

**See Instructions for Use for full product information.**

AB\_IFU0020\_REV:

CONTINUED FROM THE PREVIOUS PAGE

# Studies on Resonance®

## METALLIC URETERAL STENT AND INTRODUCER

Click on each source below to view the abstract or article.

| Sources  | Topics addressed                   |          |              |              |        |                      |                |
|--|------------------------------------|----------|--------------|--------------|--------|----------------------|----------------|
|  | Management of ureteral obstruction | Drainage | Encrustation | Indwell time | Safety | Patient tolerability | Cost reduction |
| 10. Kallidonis P, Goulimi E, Ntasiotis P, et al. <b>Experience with Resonance stent.</b> <i>Hellenic Urology</i> . 2016;28(2):62–69.   | X                                  | X        | X            |              | X      |                      | X              |
| 11. Liatsikos E, Kallidonis P, Kyriazis I, et al. <b>Ureteral obstruction: is the full metallic double-pigtail stent the way to go?</b> <i>Eur Urol</i> . 2010;57(3):480–486.  | X                                  |          |              |              | X      |                      |                |
| 12. Li CC, Li JR, Huang LH, et al. <b>Metallic stent in the treatment of ureteral obstruction: experience of single institute.</b> <i>J Chin Med Assoc</i> . 2011;74(10):460–463.  | X                                  |          | X            |              |        |                      |                |
| 13. López-Huertas HL, Polcari AJ, Acosta-Miranda A, et al. <b>Metallic ureteral stents: a cost-effective method of managing benign upper tract obstruction.</b> <i>J Endourol</i> . 2010;24(3):483–485.                                      | X                                  | X        | X            | X            |        | X                    | X              |
| 14. Nagele U, Kuczyk MA, Horstmann M, et al. <b>Initial clinical experience with full-length metal ureteral stents for obstructive ureteral stenosis.</b> <i>World J Urol</i> . 2008;26(3):257–262.  |                                    | X        | X            |              |        |                      |                |
| 15. Miyazaki J, Onozawa M, Takahashi S, et al. <b>The Resonance metallic ureteral stent in the treatment of malignant ureteral obstruction: a prospective observational study.</b> <i>BMC Urol</i> . 2019;19(1):137.                         | X                                  | X        |              | X            | X      | X                    | X              |
| 16. Patel C, Loughran D, Jones R, et al. <b>The Resonance metallic ureteric stent in the treatment of chronic ureteric obstruction: a safety and efficacy analysis from a contemporary clinical series.</b> <i>BMC Urol</i> . 2017;17(1):16. | X                                  |          |              | X            | X      |                      |                |
| 17. Pavlovic K, Lange D, Chew BH. <b>Stents for malignant ureteral obstruction.</b> <i>Asian J Urol</i> . 2016;3(3):142–149.   | X                                  |          | X            | X            |        |                      | X              |
| 18. Rao MV, Polcari AJ, Turk TM. <b>Updates on the use of ureteral stents: focus on the Resonance stent.</b> <i>Med Devices (Auckl)</i> . 2011;4:11–15.  |                                    | X        | X            | X            |        | X                    | X              |

CONTINUED FROM THE PREVIOUS PAGE

# Studies on Resonance®

## METALLIC URETERAL STENT AND INTRODUCER

Click on each source below to view the abstract or article.

| Sources  | Topics addressed                   |          |              |              |        |                      |                |
|--|------------------------------------|----------|--------------|--------------|--------|----------------------|----------------|
|  | Management of ureteral obstruction | Drainage | Encrustation | Indwell time | Safety | Patient tolerability | Cost reduction |
| 19. Wah TM, Irving HC, Cartledge J. <b>Initial experience with the Resonance metallic stent for antegrade ureteric stenting.</b> <i>Cardiovasc Intervent Radiol.</i> 2007;30(4):705–710.   |                                    | X        | X            |              |        |                      | X              |
| 20. Wang HJ, Lee TY, Luo HL, et al. <b>Application of Resonance metallic stents for ureteral obstruction.</b> <i>BJU Int.</i> 2011;108(3):428–432.   | X                                  | X        |              |              | X      |                      |                |
| 21. Khoo CC, Ho C, Palaniappan V, et al. <b>Single-centre experience with three metallic ureteric stents (Allium® URS, Memokath™-051 and Resonance®) for chronic ureteric obstruction.</b> <i>J Endourol.</i> 2021. Published online ahead of print. | X                                  | X        |              | X            | X      |                      |                |
| 22. Shah B, Chaudhari RR, Sharma S, et al. <b>Evaluation of metallic stents for malignant ureteral obstruction- a single institution experience.</b> <i>Annal Urol &amp; Nephrol.</i> 2020;2(2):1–5. DOI: 10.33552/AUN.2020.02.000539.               | X                                  | X        |              |              | X      | X                    |                |