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| --- | --- | --- | --- | --- | --- |
|  | Title | Type of technology | Organ | No. cases | Recipient |
| Ukimura et al.,  Eur Urol 201218 | Three-dimensional reconstruction of renovascular-tumor anatomy to facilitate zero-ischemia partial nephrectomy | 3D virtual reconstructions | Kidney | 3 | Surgeon |
| Ukimura et al.,  J Endourol 201417 | Three-dimensional surgical navigation model with TilePro display during robot-assisted radical prostatectomy | 3D virtual reconstructions | Prostate | 10 | Surgeon |
| Silberstein et al.,  Urology 201427 | Physical models of renal malignancies using standard cross-sectional imaging and 3- dimensional printers: a pilot study | Photosensitive resin 3D printed models | Kidney | 5 | Surgeon  Patient |
| Knoedler et al.,  Urology 201528 | Individualized physical 3-dimensional Kidney tumor models constructed from 3-dimensional  printers result in improved trainee anatomic understanding | Transparent plastic 3D printed models | Kidney | 6 | Surgeon |
| Shin et al.,  Eur Urol 20169 | Three-dimensional  printed  model of prostate anatomy and targeted biopsy proven index tumor to facilitate nerve-sparing prostatectomy | 3D printed models | Prostate | 5 | Surgeon |
| Srougi et al.,  Urology 201629 | The use of three-dimensional printers for partial adrenalectomy: estimating the resection limits | 3D printed models | Adrenal | 1 | Surgeon |
| Zhang et al.,  World J Urol 201625 | Evaluation of three-dimensionalprinting for laparoscopic partial nephrectomy of renal tumors: a preliminary report | Thermoplastic plastic 3D printed models | Kidney | 10 | Surgeon  Patients |
| Bernhard et al.,  World J Urol 201613 | Personalized 3D printed model of kidney and tumor anatomy: a useful tool for patient education. | Photopolymer 3D printed models | Kidney | 7 | Patients |
| Von Rundstedt et al., BJUI 201710 | Utility of patient-specific silicone renal models for planning and rehearsal of complex tumour resections prior to robot assisted laparoscopic partial nephrectomy | Silicon 3D printed models | Kidney | 10 | Surgeon |
| Golab et al.,  J Laparoendosc Adv Surg Tech A. 201726 | Laparoscopic partial nephrectomy supported by training involving personalized silicone replica poured in three-dimensional printed casting mold | Silicon 3D printed models | Kidney | 3 | Surgeon |
| Porpiglia et al.,  Eur Urol Suppl. 201719 | 3D prostate MRI reconstruction for congitive robot assisted radical prostatectomy: Is it able to reduce the positive surgical margin rate? | 3D virtual reconstructions | Prostate | 27 | Surgeon |

**Table 2:** Application of 3D printed models in urology: Review of the Literature.