

## **Diagnostic accuracy and clinical implications of robotic assisted MRI-US fusion guided target saturation biopsy of the prostate**

Christian Wetterauer<sup>1\*</sup>, Pawel Trotsenko<sup>1\*</sup>, Marc Olivier Matthias<sup>1</sup>, Christian Breit<sup>2</sup>, Nicola Keller<sup>3</sup>, Anja Meyer<sup>1</sup>, Philipp Brantner<sup>2</sup>, Tatjana Vlajnic<sup>4</sup>, Lukas Bubendorf<sup>4</sup>, David Jean Winkel<sup>2</sup>, Maciej Kwiatkowski<sup>5#</sup>, Hans Helge Seifert<sup>1#</sup>

<sup>1</sup> Department of Urology, University Hospital Basel, Basel, Switzerland

<sup>2</sup> Department of Radiology, University Hospital Basel, Basel, Switzerland

<sup>3</sup> University of Basel, Basel, Switzerland

<sup>4</sup> Institute of Medical Genetics and Pathology, University Hospital Basel, University of Basel, Switzerland

<sup>5</sup> Department of Urology, Cantonal Hospital Aarau, Aarau, Switzerland

\*These authors contributed equally to this work

# shared last authorship

### **Corresponding author:**

PD Dr. Christian Wetterauer

Department of Urology

University Hospital Basel

Spitalstrasse 21

4031 Basel, Switzerland

Phone: +41 61 328 71 16

Email: [christian.wetterauer@usb.ch](mailto:christian.wetterauer@usb.ch)

ORCID: 0000-0003-2947-4245

**Supplementary Table 1: Distribution of biopsies – main ISUP of all positive lesions and all patients with at least one positive lesion**

Parameter	No cancer	ISUP I	ISUP II	ISUP III	ISUP IV	ISUP V
RS - Lesions n=58		n (%)				
One core	21 (36.2)	16 (27.6)	9 (15.5)	6 (10.3)	6 (10.3)	-
Two cores	12 (20.7)	16 (27.6)	12 (20.7)	11 (19)	7 (12.1)	-
Three cores	6 (10.3)	14 (24.1)	18 (31)	13 (22.4)	7 (12.1)	-
Target-saturation	0 (0)	13 (22.4)	22 (37.9)	16 (27.6)	7 (12.1)	-
RS - Patients n=46		n (%)				
One core	17 (37)	11 (23.9)	8 (19.6)	4 (8.7)	5 (10.9)	-
Two cores	10 (21.7)	12 (26.1)	10 (21.7)	9 (19.6)	5 (10.9)	-
Three cores	5 (10.9)	10 (21.7)	15 (32.6)	11 (23.9)	5 (10.9)	-
Target-saturation	0 (0)	10 (21.7)	17 (37)	14 (30.4)	5 (10.9)	-
WCS - Lesions n=58		n (%)				
One core	35 (60.3)	11 (19)	7 (12.1)	3 (5.2)	2 (3.4)	-
Two cores	26 (44.8)	15 (25.9)	10 (17.2)	4 (24.1)	3 (5.2)	-
Three cores	17 (29.3)	16 (27.6)	14 (24.1)	7 (12.1)	4 (6.9)	-
Target-saturation	0 (0)	13 (22.4)	22 (37.9)	16 (27.6)	7 (12.1)	-
WCS - Patients n=46		n (%)				
One core	28 (60.9)	7 (15.2)	7 (15.2)	2 (4.3)	2 (4.3)	-
Two cores	21 (45.7)	10 (21.7)	10 (21.7)	2 (4.3)	3 (6.5)	-
Three cores	15 (32.6)	12 (26.1)	11 (23.9)	4 (8.7)	4 (8.7)	-
Target-saturation	0 (0)	10 (21.7)	17 (37)	14 (30.4)	5 (10.9)	-

ISUP: International Society of Urological Pathology grading; RS: random selection; WCS: worst case scenario