

Marcel Van Herk, PhD, MSc, BSc  
Academic (Teaching & Research) Professor  
Division of Cancer Sciences (L5)

**Visiting address:**

Radiotherapy Related Research, University of Manchester, c/o The Christie NHS  
Foundation Trust

Dept 58, Floor 2A, Wilmslow Road, Withington  
M20 4BX

Manchester

United Kingdom

**Email:** marcel.vanherk@manchester.ac.uk

**Phone:** 01619182339



## Overview

Professor of Radiotherapy Physics. This is a joint post between the University of Manchester and the Christie. Marcel is responsible for developing a programme of international leading radiotherapy physics research and innovation to deliver direct patient benefits. The main focus is on accuracy of radiotherapy including target volume definition, treatment planning, image guidance and treatment follow-up.

Work Stream 4 for NCRI Clinical and Translational Radiotherapy Research (CTRad) Working Group

## Employment

### Chair in Radiotherapy Physics

Academic (Teaching & Research) Professor

Division of Cancer Sciences (L5)

The University of Manchester

1 Aug 2016 → present

## Research outputs

### Post-treatment lymphocytopenia, integral body dose and overall survival in lung cancer patients treated with radical radiotherapy

Joseph, N., McWilliam, A., Kennedy, J., Haslett, K., Mahil, J., Gavarraju, A., Mistry, H., Van Herk, M., Faivre-Finn, C. & Choudhury, A., 1 Jun 2019, In : Radiotherapy and Oncology. 135, p. 115-119 5 p.

DOI: 10.1016/j.radonc.2019.03.008

### Influence of tumour laterality on patient survival in non-small cell lung cancer after radiotherapy

Mcwilliam, A., Vasquez Osorio, E., Faivre-Finn, C. & Van Herk, M., 23 Apr 2019, (Accepted/In press) In : Radiotherapy & Oncology.

### Quantitative evaluation of 4D Cone beam CT scans with reduced scan time in lung cancer patients

Bryce-atkinson, A., Marchant, T., Rodgers, J., Budgell, G., Mcwilliam, A., Faivre-finn, C., Whitfield, G. & Van Herk, M., 11 Apr 2019, In : Radiotherapy and Oncology. 136, p. 64-70 6 p.

DOI: 10.1016/j.radonc.2019.03.027

### FAst Segmentation Through SURface Fairing (FASTSURF): A novel semi-automatic hippocampus segmentation method

Bartel, F., Vrenken, H., van Herk, M., de Ruiten, M., Belderbos, J., Hulshof, J. & de Munck, J. C., 2019, In : PLoS ONE. 14, 1, p. e0210641

DOI: 10.1371/journal.pone.0210641

### Optical coherence tomography to detect acute esophageal radiation-induced damage in mice: a validation study

Jelvehgaran, P., de Bruin, D. M., Khmelinskii, A., Borst, G., Steinberg, J. D., Song, J-Y., de Vos, J., van Leeuwen, T. G., Alderliesten, T., de Boer, J. F. & van Herk, M., 2019, In : Journal of biophotonics. p. e201800440

DOI: 10.1002/jbio.201800440

### Reduced inter-observer and intra-observer delineation variation in esophageal cancer radiotherapy by use of fiducial markers

Machiels, M., Jin, P., van Hooft, J. E., Gurney-Champion, O. J., Jelvehgaran, P., Geijsen, E. D., Jeene, P. M., Willemijn Kolff, M., Oppedijk, V., Rasch, C. R. N., van Herk, M. B., Alderliesten, T. & Hulshof, M. C. C. M., 2019, In : Acta

Oncologica . p. 1-8 8 p.  
DOI: 10.1080/0284186X.2019.1588991

**The advanced radiotherapy network (ART-NET) UK lung stereotactic ablative radiotherapy survey: national provision and a focus on image guidance**

Beasley, M., Brown, S., McNair, H., Faivre-Finn, C., Franks, K., Murray, L., van Herk, M. & Henry, A., 2019, In : The British journal of radiology. p. 20180988  
DOI: 10.1259/bjr.20180988

**One-to-one registration of en-face optical coherence tomography attenuation coefficients with histology of a prostatectomy specimen**

Swaan, A., Muller, B. G., Wilk, L. S., Almasian, M., van Kollenburg, R. A. A., Zwartkruis, E., Rozendaal, L. R., de Bruin, D. M., Faber, D. J., van Leeuwen, T. G. & van Herk, M. B., 28 Dec 2018, In : Journal of biophotonics. e201800274.  
DOI: 10.1002/jbio.201800274

**Changes in prostate apparent diffusion coefficient values during radiotherapy after neo-adjuvant hormones**

Mcpartlin, A., Kershaw, L., Mcwilliam, A., Van Herk, M., Taylor, B. & Choudhury, A., 1 Dec 2018, In : Therapeutic advances in Urology. 10, 12, p. 359-364 5 p.  
DOI: 10.1177/1756287218798748

**Robust radiotherapy planning**

Unkelbach, J., Alber, M., Bangert, M., Bokrantz, R., Chan, T. C. Y., Deasy, J. O., Fredriksson, A., Gorissen, B. L., van Herk, M., Liu, W., Mahmoudzadeh, H., Nohadani, O., Siebers, J. V., Witte, M. & Xu, H., 13 Nov 2018, In : Physics in Medicine and Biology. 63, 22, p. 22TR02  
DOI: 10.1088/1361-6560/aae659

**Interaction between dose and calcifications is a predictor for overall survival in lung cancer patients receiving radiotherapy**

Vasquez Osorio, E., Brewster, F., Cobben, D., Fairve-Finn, C., Scaife, A., Van Herk, M. & Mcwilliam, A., Sep 2018.

**Robustness of an image-based data mining approach in lung cancer patients**

Vasquez Osorio, E., Aznar, M. C., Fairve-Finn, C., Green, A., Van Herk, M. & Mcwilliam, A., Sep 2018.

**Comparison of SUVmax and SUVpeak based segmentation to determine primary lung tumour volume on FDG PET-CT correlated with pathology data**

Mercieca, S., Belderbos, J., Van Loon, J., Gilhuijs, K., Julyan, P. & Van Herk, M., 1 Aug 2018, In : Radiotherapy and Oncology.  
DOI: 10.1016/j.radonc.2018.06.028

**Magnetic Resonance Imaging-Guided Radiation Therapy: A Short Strengths, Weaknesses, Opportunities, and Threats Analysis**

van Herk, M., McWilliam, A., Dubec, M., Faivre-Finn, C. & Choudhury, A., 1 Aug 2018, In : International Journal of Radiation Oncology Biology Physics. 101, 5, p. 1057-1060 4 p.  
DOI: 10.1016/j.ijrobp.2017.11.009

**Calcifications in lung cancer patients: can they be used as surrogate for overall survival predictions?**

Vasquez Osorio, E., Brewster, F., Cobben, D., Fairve-Finn, C., Scaife, A., Van Herk, M. & McWilliam, A., Aug 2018.

**Feasibility of using optical coherence tomography to detect acute radiation-induced esophageal damage in small animal models**

Jelvehgaran, P., de Bruin, D. M., Salguero, F. J., Borst, G. R., Song, J-Y., van Leeuwen, T. G., de Boer, J. F., Alderliesten, T. & van Herk, M., Apr 2018, In : Journal of Biomedical Optics. 23, 4, p. 1-12 12 p.  
DOI: 10.1117/1.JBO.23.4.046004

**Magnetic Resonance Imaging-Guided Adaptive Radiation Therapy: A "Game Changer" for Prostate Treatment?**

Pathmanathan, A. U., van As, N. J., Kerkmeijer, L. G. W., Christodouleas, J., Lawton, C. A. F., Vesprini, D., van der Heide, U. A., Frank, S. J., Nill, S., Oelfke, U., Van Herk, M., Allen Li, X., Mittauer, K., Ritter, M., Choudhury, A. & Tree, A. C., 1 Feb 2018, In : International Journal of Radiation: Oncology - Biology - Physics. 100, 2, p. 361-373 12 p.

DOI: 10.1016/j.ijrobp.2017.10.020

**A method to combine target volume data from 3D and 4D planned thoracic radiotherapy patient cohorts for machine learning applications**

Johnson, C., Price, G., Khalifa, J., Faivre-Finn, C., Dekker, A., Moore, C. & Van Herk, M., Feb 2018, In : Radiotherapy and Oncology.

DOI: 10.1016/j.radonc.2017.11.015

**Interobserver variability in the delineation of the primary lung cancer and lymph nodes on different four-dimensional computed tomography reconstructions**

Mercieca, S., Belderbos, J. S. A., De Jaeger, K., Schinagel, D. A. X., van der Voort Van Zijp, N., Pomp, J., Theuvs, J., Khalifa, J., van de Vaart, P. & van Herk, M., Feb 2018, In : Radiotherapy and Oncology. 126, 2

DOI: 10.1016/j.radonc.2017.11.020

**Image Guided Radiation Therapy Strategies for Pelvic Lymph Node Irradiation in High-Risk Prostate Cancer: Motion and Margins**

Kershaw, L., van Zadelhoff, L., Heemsbergen, W., Pos, F. & van Herk, M., 1 Jan 2018, In : International Journal of Radiation Oncology Biology Physics.

DOI: 10.1016/j.ijrobp.2017.08.044

**Assessing MR-linac radiotherapy robustness for anatomical changes in head and neck cancer**

Chuter, R. W., Pollitt, A., Whitehurst, P., MacKay, R. I., van Herk, M. & McWilliam, A., 2018, In : Physics in Medicine and Biology. 63, 12, p. 125020

DOI: 10.1088/1361-6560/aac749

**Comparison of intensity modulated radiotherapy plan optimisation methods for a 1.5 T MR-Linac**

Chuter, R., Van Herk, M., Akhiat, H., Voet, P., Choudhury, A. & McWilliam, A., 2018, In : Journal of Applied Clinical Medical Physics.

DOI: 10.1002/acm2.12475

**Earliest radiological progression in glioblastoma by multidisciplinary consensus review**

Eijgelaar, R. S., Bruynzeel, A. M. E., Lagerwaard, F. J., Müller, D. M. J., Teunissen, F. R., Barkhof, F., van Herk, M., de Witt Hamer, P. C. & Witte, M. G., 2018, In : Journal of Neuro-Oncology. 8 p.

DOI: 10.1007/s11060-018-2896-3

**Feasibility of using optical coherence tomography to detect radiation-induced fibrosis and residual cancer extent after neoadjuvant chemo-radiation therapy: an ex vivo study**

Jelvehgaran, P., Alderliesten, T., Georgiou, G., Meijer, S. L., Bloemen, P. R., Kodach, L. L., Van Laarhoven, H. W. M., Van Berge Henegouwen, M. I., Hulshof, M. C. C. M., Rasch, C. R. N., Van Leeuwen, T. G., De Boer, J. F., De Bruin, M. & Van Herk, M., 2018, In : Biomedical Optics Express. 9, 9

DOI: 10.1364/BOE.9.004196

**Image-based Data Mining to Probe Dosimetric Correlates of Radiation-induced Trismus**

Beasley, W., Thor, M., McWilliam, A., Mackay, R., Slevin, N., Olsson, C., Pettersson, N., Finizia, C., Estilo, C., Riaz, N., Lee, N. Y., Deasy, J. O., Van Herk, M. & Green, A., 2018, In : International Journal of Radiation: Oncology - Biology - Physics.

DOI: 10.1016/j.ijrobp.2018.05.054

**Image-guided radiotherapy residual setup errors linked to overall survival in lung cancer patients**

Johnson, C. N., Price, G. J., Faivre-Finn, C. & van Herk, M., 2018, *European Society for Radiotherapy and Oncology*. (European Society for Radiotherapy and Oncology).

**Inter-observer variation of hippocampus delineation in hippocampal avoidance prophylactic cranial irradiation**

Bartel, F., Van Herk, M., Vrenken, H., Vandaele, F., Sunaert, S., De Jaeger, K., Dollekamp, N. J., Carbaat, C., Lamers, E., Dieleman, E. M. T., Lievens, Y., De Ruysscher, D., Schagen, S. B., De Ruyter, M. B., De Munck, J. C. & Belderbos, J., 2018, In : Clinical and Translational Oncology.

DOI: 10.1007/s12094-018-1903-7

### **Learning from every patient treated**

Van Herk, M., McWilliam, A., Green, A., Osorio, E. V., Beasley, W., Choudhury, A. & Faivre-Finn, C., 2018, In : *Physica Medica*. 52, p. 165-171 p.  
DOI: 10.1016/j.ejmp.2018.06.014

### **Prospective evaluation of relationships between radiotherapy dose to masticatory apparatus and trismus**

Hague, C., Beasley, W., Garcez, K., Lee, L. W., McPartlin, A., McWilliam, A., Ryder, D., Sykes, A. J., Thomson, D., van Herk, M., West, C. & Slevin, N. J., 2018, In : *Acta Oncologica*. p. 1-5 p.  
DOI: 10.1080/0284186X.2018.1459047

### **Residual setup errors towards the heart after image guidance linked with poorer survival in lung cancer patients: do we need stricter IGRT protocols?**

Johnson, C. N., Price, G. J., Faivre-Finn, C., Aznar, M. C. & van Herk, M., 2018, In : *International journal of radiation oncology, biology, physics*.  
DOI: 10.1016/j.ijrobp.2018.05.052

### **Simplex-based navigation tool for a posteriori selection of the preferred deformable image registration outcome from a set of trade-off solutions obtained with multiobjective optimization for the case of breast MRI**

Pirpinia, K., Bosman, P. A. N., Loo, C. E., Russell, N. S., Van Herk, M. B. & Alderliesten, T., 2018, In : *Journal of Medical Imaging*. 5, 4, 045501.  
DOI: 10.1117/1.JMI.5.4.045501

### **Study in nephroureterectomy specimens defining the role of 3-D upper urinary tract visualization using optical coherence tomography and endoluminal ultrasound**

Bus, M. T. J., Cernohorsky, P., de Bruin, D. M., Meijer, S. L., Streekstra, G. J., Faber, D. J., Kamphuis, G. M., Zondervan, P. J., van Herk, M., Laguna Pes, M. P., Grundeken, M. J., Brandt, M. J., de Reijke, T. M., de la Rosette, J. J. M. C. H. & van Leeuwen, T. G., 2018, In : *Journal of Medical Imaging*. 5, 1, p. 017001  
DOI: 10.1117/1.JMI.5.1.017001

### **The Challenges of Using MRI During Radiotherapy**

McWilliam, A., Rowland, B. & Van Herk, M., 2018, In : *Clinical Oncology*.  
DOI: 10.1016/j.clon.2018.08.004

### **The impact of training and professional collaboration on the interobserver variation of lung cancer delineations: a multi-institutional study**

Mercieca, S., Belderbos, J. S. A., van Baardwijk, A., Delorme, S. & van Herk, M., 2018, In : *Acta Oncologica*. p. 1-9 p.  
DOI: 10.1080/0284186X.2018.1529422

### **Use of a novel atlas for muscles of mastication to reduce inter observer variability in head and neck radiotherapy contouring**

Hague, C., Beasley, W., Dixon, L., Gaito, S., Garcez, K., Green, A., Lee, L. W., Maranzano, M., McPartlin, A., Mistry, H., Mullan, D., Sykes, A. J., Thomson, D., Van Herk, M., West, C. M. & Slevin, N., 2018, In : *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*.  
DOI: 10.1016/j.radonc.2018.10.030

### **Visibility of fiducial markers used for image-guided radiation therapy on optical coherence tomography for registration with CT: An esophageal phantom study**

Jelvehgaran, P., Alderliesten, T., Weda, J. J. A., de Bruin, M., Faber, D. J., Hulshof, M. C. C. M., van Leeuwen, T. G., van Herk, M. & de Boer, J. F., Dec 2017, In : *Medical Physics*. 44, 12, p. 6570-6582 p.  
DOI: 10.1002/mp.12624

### **Technical Note: Investigating the impact of field size on patient selection for the 1.5T MR-Linac**

Chuter, R. W., Whitehurst, P., Choudhury, A., Van Herk, M. & McWilliam, A., 13 Nov 2017, In : *Medical Physics*. 44, 11, p. 5667-5671 p.  
DOI: 10.1002/mp.12557

**Radiation dose to heart base linked with poorer survival in lung cancer patients.**

McWilliam, A., Kennedy, J., Hodgson, C., Vasquez Osorio, E., Faivre-Finn, C. & Van Herk, M., Nov 2017, In : European Journal of Cancer. 85, p. 106-113 8 p.  
DOI: 10.1016/j.ejca.2017.07.053

**Nodal stage migration and prognosis in anal cancer: a systematic review, meta-regression, and simulation study**

Sekhar, H., Zwahlen, M., Trelle, S., Malcomson, L., Kochhar, R., Saunders, M. P., Sperrin, M., van Herk, M., Sebag-Montefiore, D., Egger, M. & Renehan, A. G., Oct 2017, In : The Lancet. Oncology. 18, 10, p. 1348-1359 11 p.  
DOI: 10.1016/S1470-2045(17)30456-4

**The Future of Image-guided Radiotherapy**

Choudhury, A., Budgell, G., MacKay, R., Falk, S., Faivre-Finn, C., Dubec, M., van Herk, M. & McWilliam, A., Oct 2017, In : Clinical Oncology. p. 662-666 5 p.  
DOI: 10.1016/j.clon.2017.04.036

**Beyond the margin recipe: The probability of correct target dosage and tumor control in the presence of a dose limiting structure**

Witte, M. G., Sonke, J. J., Siebers, J., Deasy, J. O. & Van Herk, M., 20 Sep 2017, In : Physics in Medicine and Biology. 62, 19, p. 7874-7888 15 p.  
DOI: 10.1088/1361-6560/aa87fe

**Optimal combination of anti-scatter grids and software correction for CBCT imaging**

Stankovic, U., Ploeger, L. S., van Herk, M. & Sonke, J-J., Sep 2017, In : Medical Physics. 44, 9  
DOI: 10.1002/mp.12385

**ADDED VALUE IN DISCRIMINATION PERFORMANCE OF TUMOUR PARAMETERS AND NOVEL FEATURES DETERMINED USING ROUTINE PRE-TREATMENT MRI IN PATIENTS WITH ANAL CANCER.**

Sekhar, H., Kochhar, R., Carrington, B., Sperrin, M., Saunders, M., Van Herk, M., Sebag-Montefiore, D. & Renehan, A., Jun 2017, In : Diseases of the Colon and Rectum. 60, 6, p. E106-E106

**A population based statistical model for daily geometric variations in the thorax**

Szeto, Y. Z., Witte, M. G., van Herk, M. & Sonke, J-J., Apr 2017, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 123, 1, p. 99-105 7 p.  
DOI: 10.1016/j.radonc.2017.02.012

**Considerable interobserver variation in delineation of pancreatic cancer on 3DCT and 4DCT: A multi-institutional study**

Versteijne, E., Gurney-Champion, O. J., van der Horst, A., Lens, E., Kolff, M. W., Buijsen, J., Ebrahimi, G., Neelis, K. J., Rasch, C. R. N., Stoker, J., van Herk, M., Bel, A. & van Tienhoven, G., 23 Mar 2017, In : Practical Radiation Oncology. 1, 1, p. 58-58.  
DOI: 10.1186/s13014-017-0777-0

**Regional analysis of volumes and reproducibilities of automatic and manual hippocampal segmentations**

Bartel, F., Vrenken, H., Bijma, F., Barkhof, F., Van Herk, M. & De Munck, J. C., 9 Feb 2017, In : PLoS ONE. 12, 2, e0166785.  
DOI: 10.1371/journal.pone.0166785

**High resolution toxicity analysis of lung cancer patients identifies the base of the heart as a dose sensitive region**

McWilliam, A., Kennedy, J., Faivre-Finn, C. & Van Herk, M., Jan 2017, p. S2(4).

**Organ at risk inter- and intra-observer contour variation for lung patients on average versus motion compensated 4DCT**

McWilliam, A., Lee, L., Harris, M., Sheikh, H., Pemberton, L., Faivre-Finn, C. & Van Herk, M., Jan 2017, p. S52(117).

**Addition of MRI for CT-based pancreatic tumor delineation: a feasibility study**

Gurney-Champion, O. J., Versteijne, E., van der Horst, A., Lens, E., Rütten, H., Heerkens, H. D., Paardekooper, G. M. R. M., Berbee, M., Rasch, C. R. N., Stoker, J., Engelbrecht, M. R. W., van Herk, M., Nederveen, A. J., Klaassen, R., van Laarhoven, H. W. M., van Tienhoven, G. & Bel, A., 2017, In : Acta Oncologica. 56, 7, p. 1-8 8 p.

DOI: 10.1080/0284186X.2017.1304654

### **Data mining in oncology: The ukCAT project and the practicalities of working with routine patient data**

Price, G., Van Herk, M. & Faivre-Finn, C., 2017, In : *Clinical Oncology*.

DOI: 10.1016/j.clon.2017.07.011

### **Imaging biomarker roadmap for cancer studies**

O'Connor, J. P. B., Aboagye, E. O., Adams, J. E., Aerts, H. J. W. L., Barrington, S. F., Beer, A. J., Boellaard, R., Bohndiek, S. E., Brady, M., Brown, G., Buckley, D. L., Chenevert, T. L., Clarke, L. P., Collette, S., Cook, G. J., deSouza, N. M., Dickson, J. C., Dive, C., Evelhoch, J. L., Faivre-Finn, C. & 57 others Gallagher, F. A., Gilbert, F. J., Gillies, R. J., Goh, V., Griffiths, J. R., Groves, A. M., Halligan, S., Harris, A. L., Hawkes, D. J., Hoekstra, O. S., Huang, E. P., Hutton, B. F., Jackson, E. F., Jayson, G. C., Jones, A., Koh, D. M., Lacombe, D., Lambin, P., Lassau, N., Leach, M. O., Lee, T. Y., Leen, E. L., Lewis, J. S., Liu, Y., Lythgoe, M. F., Manoharan, P., Maxwell, R. J., Miles, K. A., Morgan, B., Morris, S., Ng, T., Padhani, A. R., Parker, G. J. M., Partridge, M., Pathak, A. P., Peet, A. C., Punwani, S., Reynolds, A. R., Robinson, S. P., Shankar, L. K., Sharma, R. A., Soloviev, D., Stroobants, S., Sullivan, D. C., Taylor, S. A., Tofts, P. S., Tozer, G. M., van Herk, M., Walker-Samuel, S., Wason, J., Williams, K., Workman, P., Yankeelov, T. E., Brindle, K. M., McShane, L. M., Jackson, A. & Waterton, J. C., 2017, In : *Nature Reviews Clinical Oncology*. 14, 3, p. 169-186

DOI: 10.1038/nrclinonc.2016.162

### **Introducing the Cancer Research UK Advanced Radiotherapy Technologies Network (ART-NET)**

Mackay, R., Van Herk, M., Faivre-Finn, C. & ART-NET Steering Committee, 2017, In : *Clinical Oncology*.

DOI: 10.1016/j.clon.2017.07.016

### **MRI Guided Radiotherapy: A Short SWOT Analysis**

van Herk, M., McWilliam, A., Dubec, M., Faivre-Finn, C. & Choudhury, A., 2017, *Imaging & Oncology*. London: Society and College of Radiographers, p. 20-27

### **The feasibility of manual parameter tuning for deformable breast MR image registration from a multi-objective optimization perspective**

Pirpinia, K., Bosman, P. A. N., Loo, C. E., Winter-Warnars, G., Janssen, N. N. Y., Scholten, A. N., Sonke, J.-J., Van Herk, M. & Alderliesten, T., 2017, In : *Physics in Medicine and Biology*. 62, 14, p. 5723-5743 21 p.

DOI: 10.1088/1361-6560/aa6edc

### **The influence of automation on tumor contouring**

Aselmaa, A., van Herk, M., Song, Y., Goossens, R. H. M. & Laprie, A., 2017, In : *Cognition, Technology and Work*. p. 1-14 14 p.

DOI: 10.1007/s10111-017-0436-0

### **Using a contextualized sensemaking model for interaction design: A case study of tumor contouring**

Aselmaa, A., van Herk, M., Laprie, A., Nestle, U., Götz, I., Wiedenmann, N., Schimek-Jasch, T., Picaud, F., Strykh, C., Cagetti, L. V., Jolnerovski, M., Song, Y. & Goossens, R. H. M., 2017, In : *Journal of Biomedical Informatics*.

DOI: 10.1016/j.jbi.2016.12.001

### **An automated workflow for patient-specific quality control of contour propagation**

Beasley, W., McWilliam, A., Slevin, N., Mackay, R. & Van Herk, M., 23 Nov 2016, In : *Physics in Medicine and Biology*. 61, 24, p. 8577-8586 10 p.

DOI: 10.1088/1361-6560/61/24/8577

### **Head and Neck Margin Reduction With Adaptive Radiation Therapy: Robustness of Treatment Plans Against Anatomy Changes**

van Kranen, S., Hamming-Vrieze, O., Wolf, A., Damen, E., van Herk, M. & Sonke, J. J., 1 Nov 2016, In : *International Journal of Radiation Oncology Biology Physics*. 96, 3, p. 653-660 8 p.

DOI: 10.1016/j.ijrobp.2016.07.011

### **Online 3D EPID-based dose verification : Proof of concept**

Spreeuw, H., Rozendaal, R., Olaciregui-Ruiz, I., Gonazalez, P., Mans, A., Mijnheer, B. & Van Herk, M., 15 Jul 2016, In : *Medical Physics*. 43, 7, 3969.

DOI: 10.1118/1.4952729

**MRI-guided prostate adaptive radiotherapy - A systematic review**

Mcpartlin, A., Li, X. A., Kershaw, L., van der Heide, U. A., Kerkmeijer, L., Lawton, C., Mahmood, U., Pos, F. J., Van As, N., Van Herk, M., Vesprini, D., van der Voort van Zyp, J., Tree, A., Choudhury, A. & MR-Linac consortium, Jun 2016, In : Radiotherapy and Oncology. 119, 3, p. 371-380 10 p.

DOI: 10.1016/j.radonc.2016.04.014

**Clinical introduction of image lag correction for a cone beam CT system**

Stankovic, U., Ploeger, L.S., Sonke, J.J. & Van Herk, M., 5 Mar 2016, In : Medical Physics. 43, 3, p. 1057-1064

DOI: 10.1118/1.4941015

**Effects of anatomical changes on pencil beam scanning proton plans in locally advanced NSCLC patients**

Szeto, Y. Z., Witte, M. G., van Kranen, S. R., Sonke, J.-J., Belderbos, J. & van Herk, M., 2016, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology.

DOI: 10.1016/j.radonc.2016.04.002

**Impact of coronal and sagittal views on lung gross tumor volume delineation**

Fitton, I., Duppen, J. C., Steenbakkers, R. J. H. M., Lotz, H., Nowak, P. J. C. M., Rasch, C. R. N. & van Herk, M., 2016, In : Physica medica : PM : an international journal devoted to the applications of physics to medicine and biology : official journal of the Italian Association of Biomedical Physics (AIFB). 32, 9, p. 1082-7 6 p.

DOI: 10.1016/j.ejmp.2016.08.005

**Clinical evaluation of respiration-induced attenuation uncertainties in pulmonary 3D PET/CT.**

Kruis, M.F., van, D. K. J.B., Vogel, W.V., Belderbos, J.S., Sonke, J.J. & Van Herk, M., Dec 2015, In : European Journal of Nuclear Medicine and Molecular Imaging. 2, 4

DOI: 10.1186/s40658-014-0107-7

**Dose-surface maps identifying local dose-effects for acute gastrointestinal toxicity after radiotherapy for prostate cancer**

Wortel, R. C., Witte, M. G., van der Heide, U. A., Pos, F. J., Lebesque, J. V., van Herk, M., Incrocci, L. & Heemsbergen, W. D., Dec 2015, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 117, 3, p. 515-20 6 p.

DOI: 10.1016/j.radonc.2015.10.020

**Overview of 3-year experience with large-scale electronic portal imaging device-based 3-dimensional transit dosimetry**

Mijnheer, B. J., González, P., Olaciregui-Ruiz, I., Rozendaal, R. A., van Herk, M. & Mans, A., 1 Oct 2015, In : Practical Radiation Oncology. 5, 6, p. e679-87

DOI: 10.1016/j.prro.2015.07.001

**CT-based delineation of organs at risk in the head and neck region: DAHANCA, EORTC, GORTEC, HKNPCSG, NCIC CTG, NCRI, NRG Oncology and TROG consensus guidelines.**

Brouwer, C., Steenbakkers, R. J. H. M., Bourhis, J., Budach, W., Grau, C., Gregoire, V., Van Herk, M., Lee, A., Maingon, P., Nutting, C., O'Sullivan, B., Porceddu, S. V., Rosenthal, D., Sijtsemaa, N. & Langendijka, J., Oct 2015, In : Radiotherapy & Oncology. 117, 1, p. 83-90 7 p., j.ejca.2015.09.013.

DOI: 10.1016/j.radonc.2015.07.041

**Impact of daily anatomical changes on EPID-based in vivo dosimetry of VMAT treatments of head-and-neck cancer.**

Van Herk, M., Rozendaal, R. A., Mijnheer, B. J., Hamming-Vrieze, O., Mans, A. & van Herk, M., 30 Jun 2015, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology.

DOI: 10.1016/j.radonc.2015.05.020

**Dynamic CT perfusion image data compression for efficient parallel processing.**

Van Herk, M., Barros, R. S., Olabarriaga, S. D., Borst, J., van Walderveen, M. A. A., Posthuma, J. S., Streekstra, G. J., van Herk, M., Majoie, C. B. L. M. & Marquering, H. A., 24 Jun 2015, In : Medical & biological engineering & computing.

DOI: 10.1007/s11517-015-1331-6

**Establishing implantation uncertainties for focal brachytherapy with I-125 seeds for the treatment of localized prostate cancer.**

Van Herk, M., Polders, D. L., Steggerda, M., van Herk, M., Nichol, K., Witteveen, T., Moonen, L., Nijkamp, J. & van der Heide, U. A., Jun 2015, In : *Acta Oncologica* . 54, 6  
DOI: 10.3109/0284186X.2014.995312

**WE-D-BRA-04: Online 3D EPID-Based Dose Verification for Optimum Patient Safety.**

Van Herk, M., Spreeuw, H., Rozendaal, R., Olaciregui-Ruiz, I., Mans, A., Mijnheer, B., van Herk, M. & Gonzalez, P., Jun 2015, In : *Medical Physics*. 42, 6  
DOI: 10.1118/1.4925931

**Dynamic collimator angle adjustments during volumetric modulated arc therapy to account for prostate rotations.**

Van Herk, M., de Boer, J., Wolf, A. L., Szeto, Y. Z., van Herk, M. & Sonke, J-J., 1 Apr 2015, In : *International journal of radiation oncology, biology, physics*. 91, 5  
DOI: 10.1016/j.ijrobp.2014.11.020

**Comment on 'Multi-modality functional image guided dose escalation in the presence of uncertainties'**

Witte, M. G., Lebesque, J. V. & van Herk, M., Apr 2015, In : *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*. 115, 1, p. 149  
DOI: 10.1016/j.radonc.2015.03.013

**Acute toxicity after image-guided intensity modulated radiation therapy compared to 3D conformal radiation therapy in prostate cancer patients.**

Van Herk, M., Wortel, R. C., Incrocci, L., Pos, F. J., Lebesque, J. V., Witte, M. G., van der Heide, U. A., van Herk, M. & Heemsbergen, W. D., 15 Mar 2015, In : *International journal of radiation oncology, biology, physics*. 91, 4  
DOI: 10.1016/j.ijrobp.2014.12.017

**Target delineation variability and corresponding margins of peripheral early stage NSCLC treated with stereotactic body radiotherapy.**

Van Herk, M., Peulen, H., Belderbos, J., Guckenberger, M., Hope, A., Grills, I., van Herk, M. & Sonke, J-J., Mar 2015, In : *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*. 114, 3  
DOI: 10.1016/j.radonc.2015.02.011

**Toward adaptive radiotherapy for head and neck patients: Uncertainties in dose warping due to the choice of deformable registration algorithm.**

Van Herk, M., Veiga, C., Lourenço, A. M., Mouinuddin, S., van Herk, M., Modat, M., Ourselin, S., Royle, G. & McClelland, J. R., Feb 2015, In : *Medical Physics*. 42, 2  
DOI: 10.1118/1.4905050

**Portal dosimetry in wedged beams.**

Spreeuw, H., Rozendaal, R., Camargo, P., Mans, A., Wendling, M., Olaciregui-Ruiz, I., Sonke, J-J., Van Herk, M. & Mijnheer, B., 2015, In : *Journal of Applied Clinical Medical Physics*. 16, 3

**Probabilistic evaluation of target dose deterioration in dose painting by numbers for stage II/III lung cancer.**

Van Herk, M., Fontanarosa, D., Witte, M., Meijer, G., Shakirin, G., Steenhuijsen, J., Schuring, D., van Herk, M. & Lambin, P., 2015, In : *Practical Radiation Oncology* . 5, 4, p. 375-82 7 p.  
DOI: 10.1016/j.prr.2015.01.001

**Deformable image registration for adaptive radiation therapy of head and neck cancer: accuracy and precision in the presence of tumor changes.**

Van Herk, M., Mencarelli, A., van Kranen, S. R., Hamming-Vriese, O., van Beek, S., Nico Rasch, C. R., van Herk, M. & Sonke, J-J., 1 Nov 2014, In : *International journal of radiation oncology, biology, physics*. 90, 3  
DOI: 10.1016/j.ijrobp.2014.06.045

**Inter- and intra-fractional bladder motion during radiotherapy for bladder cancer: a comparison of full and empty bladders.**

Van Herk, M., Dees-Ribbers, H. M., Betgen, A., Pos, F. J., Witteveen, T., Remeijer, P. & van Herk, M., Nov 2014, In : *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*. 113, 2



DOI: 10.1016/j.radonc.2014.08.019

**Clinical implementation and rapid commissioning of an EPID based in-vivo dosimetry system.**

Van Herk, M., Hanson, I. M., Hansen, V. N., Olaciregui-Ruiz, I. & van Herk, M., 7 Oct 2014, In : *Physics in Medicine and Biology*. 59, 19

DOI: 10.1088/0031-9155/59/19/N171

**4D CT amplitude binning for the generation of a time-averaged 3D mid-position CT scan.**

Van Herk, M., Kruis, M. F., van de Kamer, J. B., Belderbos, J. S. A., Sonke, J-J. & van Herk, M., 21 Sep 2014, In : *Physics in Medicine and Biology*. 59, 18

DOI: 10.1088/0031-9155/59/18/5517

**In vivo portal dosimetry for head-and-neck VMAT and lung IMRT: linking  $\gamma$ -analysis with differences in dose-volume histograms of the PTV.**

Van Herk, M., Rozendaal, R. A., Mijnheer, B. J., van Herk, M. & Mans, A., Sep 2014, In : *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*. 112, 3

DOI: 10.1016/j.radonc.2014.03.021

**Improved image quality of cone beam CT scans for radiotherapy image guidance using fiber-interspaced antiscatter grid.**

Van Herk, M., Stankovic, U., van Herk, M., Ploeger, L. S. & Sonke, J-J., Jun 2014, In : *Medical Physics*. 41, 6

DOI: 10.1118/1.4875978

**Automatic detection system for multiple region of interest registration to account for posture changes in head and neck radiotherapy.**

Van Herk, M., Mencarelli, A., van Beek, S., Zijp, L. J., Rasch, C., van Herk, M. & Sonke, J-J., 21 Apr 2014, In : *Physics in Medicine and Biology*. 59, 8

DOI: 10.1088/0031-9155/59/8/2005

**Leukemia and brain tumors among children after radiation exposure from CT scans: design and methodological opportunities of the Dutch Pediatric CT Study.**

Van Herk, M., Meulepas, J. M., Ronckers, C. M., Smets, A. M. J. B., Nievelstein, R. A. J., Jahnen, A., Lee, C., Kieft, M., Laméris, J. S., van Herk, M., Greuter, M. J. W., Jeukens, C. R. L. P. N., van Straten, M., Visser, O., van Leeuwen, F. E. & Hauptmann, M., Apr 2014, In : *European journal of epidemiology*. 29, 4

DOI: 10.1007/s10654-014-9900-9

**Occupancy of serotonin transporters in the amygdala by paroxetine in association with attenuation of left amygdala activation by negative faces in major depressive disorder.**

Van Herk, M., Ruhé, H. G., Koster, M., Booij, J., van Herk, M., Veltman, D. J. & Schene, A. H., 28 Feb 2014, In : *Psychiatry Research*. 221, 2

DOI: 10.1016/j.psychresns.2013.12.003

**Adaptive radiotherapy with an average anatomy model: evaluation and quantification of residual deformations in head and neck cancer patients.**

Van Herk, M., van Kranen, S., Mencarelli, A., van Beek, S., Rasch, C., van Herk, M. & Sonke, J-J., Dec 2013, In : *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*. 109, 3

DOI: 10.1016/j.radonc.2013.08.007

**An in silico comparison between margin-based and probabilistic target-planning approaches in head and neck cancer patients.**

Van Herk, M., Fontanarosa, D., van der Laan, H. P., Witte, M., Shakirin, G., Roelofs, E., Langendijk, J. A., Lambin, P. & van Herk, M., Dec 2013, In : *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*. 109, 3

DOI: 10.1016/j.radonc.2013.07.012

**Motion compensated digital tomosynthesis.**

Van Herk, M., van der Reijden, A., van Herk, M. & Sonke, J-J., Dec 2013, In : *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*. 109, 3

DOI: 10.1016/j.radonc.2013.09.002

**Registration accuracy and image quality of time averaged mid-position CT scans for liver SBRT.**

Van Herk, M., Kruis, M. F., van de Kamer, J. B., Sonke, J-J., Jansen, E. P. M. & van Herk, M., Dec 2013, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 109, 3  
DOI: 10.1016/j.radonc.2013.08.047

**Automatic in vivo portal dosimetry of all treatments.**

Van Herk, M., Olaciregui-Ruiz, I., Rozendaal, R., Mijnheer, B., van Herk, M. & Mans, A., 21 Nov 2013, In : Physics in Medicine and Biology. 58, 22  
DOI: 10.1088/0031-9155/58/22/8253

**PET motion compensation for radiation therapy using a CT-based mid-position motion model: methodology and clinical evaluation.**

Van Herk, M., Kruis, M. F., van de Kamer, J. B., Houweling, A. C., Sonke, J-J., Belderbos, J. S. A. & van Herk, M., 1 Oct 2013, In : International journal of radiation oncology, biology, physics. 87, 2  
DOI: 10.1016/j.ijrobp.2013.06.007

**Probabilistic objective functions for margin-less IMRT planning.**

Van Herk, M., Bohoslavsky, R., Witte, M. G., Janssen, T. M. & van Herk, M., 7 Jun 2013, In : Physics in Medicine and Biology. 58, 11  
DOI: 10.1088/0031-9155/58/11/3563

**Hybrid registration of prostate and seminal vesicles for image guided radiation therapy.**

Van Herk, M., de Boer, J., van Herk, M., Pos, F. J. & Sonke, J-J., 1 May 2013, In : International journal of radiation oncology, biology, physics. 86, 1  
DOI: 10.1016/j.ijrobp.2012.11.034

**Fusion of planning CT and cystoscopy images for bladder tumor delineation: a feasibility study.**

Van Herk, M., Dees-Ribbers, H. M., Pos, F. J., Betgen, A., Bex, A., Hulshof, M. C. C. M., Remeijer, P. & van Herk, M., May 2013, In : Medical Physics. 40, 5  
DOI: 10.1118/1.4799842

**Radiotherapy with rectangular fields is associated with fewer clinical failures than conformal fields in the high-risk prostate cancer subgroup: results from a randomized trial.**

Van Herk, M., Heemsbergen, W. D., Al-Mamgani, A., Witte, M. G., van Herk, M. & Lebesque, J. V., May 2013, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 107, 2  
DOI: 10.1016/j.radonc.2013.03.019

**Multiple comparisons permutation test for image based data mining in radiotherapy.**

Van Herk, M., Chen, C., Witte, M., Heemsbergen, W. & van Herk, M., 2013, In : Radiation Oncology . 8  
DOI: 10.1186/1748-717X-8-293

**Semiautomatic bladder segmentation on CBCT using a population-based model for multiple-plan ART of bladder cancer.**

Van Herk, M., Chai, X., van Herk, M., Betgen, A., Hulshof, M. & Bel, A., 21 Dec 2012, In : Physics in Medicine and Biology. 57, 24  
DOI: 10.1088/0031-9155/57/24/N525

**Adaptive margin radiotherapy for patients with prostate carcinoma: what's the benefit?**

Van Herk, M., Haverkort, M. A. D., van de Kamer, J. B., Pieters, B. R., Koning, C. C. E., van Herk, M. & van Tienhoven, G., Nov 2012, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 105, 2  
DOI: 10.1016/j.radonc.2012.10.003

**Validation of deformable registration in head and neck cancer using analysis of variance.**

Van Herk, M., Mencarelli, A., van Beek, S., van Kranen, S., Rasch, C., van Herk, M. & Sonke, J-J., Nov 2012, In : Medical Physics. 39, 11

DOI: 10.1118/1.4760990

**Influence of the number of elongated fiducial markers on the localization accuracy of the prostate.**

Van Herk, M., de Boer, J., de Bois, J., van Herk, M. & Sonke, J-J., 7 Oct 2012, In : Physics in Medicine and Biology. 57, 19

DOI: 10.1088/0031-9155/57/19/6211

**Acute esophagus toxicity in lung cancer patients after intensity modulated radiation therapy and concurrent chemotherapy.**

Van Herk, M., Kwint, M., Uyterlinde, W., Nijkamp, J., Chen, C., de Bois, J., Sonke, J-J., van den Heuvel, M., Kneijens, J., van Herk, M. & Belderbos, J., 1 Oct 2012, In : International journal of radiation oncology, biology, physics. 84, 2

DOI: 10.1016/j.ijrobp.2012.03.027

**Evaluation of tumor shape variability in head-and-neck cancer patients over the course of radiation therapy using implanted gold markers.**

Van Herk, M., Hamming-Vrieze, O., van Kranen, S. R., van Beek, S., Heemsbergen, W., van Herk, M., van den Brekel, M. W. M., Sonke, J-J. & Rasch, C. R. N., 1 Oct 2012, In : International journal of radiation oncology, biology, physics. 84, 2

DOI: 10.1016/j.ijrobp.2012.03.014

**Automatic bladder segmentation on CBCT for multiple plan ART of bladder cancer using a patient-specific bladder model.**

Van Herk, M., Chai, X., van Herk, M., Betgen, A., Hulshof, M. & Bel, A., 21 Jun 2012, In : Physics in Medicine and Biology. 57, 12

DOI: 10.1088/0031-9155/57/12/3945

**Adaptive radiotherapy for long course neo-adjuvant treatment of rectal cancer.**

Van Herk, M., Nijkamp, J., Marijnen, C., van Herk, M., van Triest, B. & Sonke, J-J., Jun 2012, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 103, 3

DOI: 10.1016/j.radonc.2012.02.013

**Contrast-enhanced ultrasound as support for prostate brachytherapy treatment planning.**

Van Herk, M., Pieters, B., Wijkstra, H., van Herk, M., Kuipers, R., Kaljouw, E., de la Rosette, J. & Koning, C., Jun 2012, In : Journal of contemporary brachytherapy. 4, 2

DOI: 10.5114/jcb.2012.29362

**In-situ imaging of articular cartilage of the first carpometacarpal joint using co-registered optical coherence tomography and computed tomography**

Cernohorsky, P., de Bruin, D. M., van Herk, M., Bras, J., Faber, D. J., Strackee, S. D. & van Leeuwen, T. G., Jun 2012, In : Journal of Biomedical Optics. 17, 6, p. 060501

DOI: 10.1117/1.JBO.17.6.060501

**Quantification of the variability of diaphragm motion and implications for treatment margin construction.**

Van Herk, M., Rit, S., van Herk, M., Zijp, L. & Sonke, J-J., 1 Mar 2012, In : International journal of radiation oncology, biology, physics. 82, 3

DOI: 10.1016/j.ijrobp.2011.06.1986

**Repeat CT assessed CTV variation and PTV margins for short- and long-course pre-operative RT of rectal cancer.**

Van Herk, M., Nijkamp, J., Swellengrebel, M., Hollmann, B., de Jong, R., Marijnen, C., van Vliet-Vroegindeweij, C., van Triest, B., van Herk, M. & Sonke, J-J., Mar 2012, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 102, 3

DOI: 10.1016/j.radonc.2011.11.011

**A practical technique to avoid the hippocampus in prophylactic cranial irradiation for lung cancer.**

Van Herk, M., van Kesteren, Z., Belderbos, J., van Herk, M., Olszewska, A., Lamers, E., De Ruyscher, D., Damen, E. & van Vliet-Vroegindeweij, C., Feb 2012, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 102, 2

DOI: 10.1016/j.radonc.2011.09.023

**A voxel-based finite element model for the prediction of bladder deformation.**

Van Herk, M., Chai, X., van Herk, M., Hulshof, M. C. C. M. & Bel, A., Jan 2012, In : Medical Physics. 39, 1  
DOI: 10.1118/1.3668060

**In aqua vivo EPID dosimetry.**

Van Herk, M., Wendling, M., McDermott, L. N., Mans, A., Olaciregui-Ruiz, Í., Pecharromás-Gallego, R., Sonke, J-J., Stroom, J., van Herk, M. & Mijnheer, B. J., Jan 2012, In : Medical Physics. 39, 1  
DOI: 10.1118/1.3665709

**Target volume delineation variation in radiotherapy for early stage rectal cancer in the Netherlands.**

Van Herk, M., Nijkamp, J., de Haas-Kock, D. F. M., Beukema, J. C., Neelis, K. J., Woutersen, D., Ceha, H., Rozema, T., Slot, A., Vos-Westerman, H., Intven, M., Spruit, P. H., van der Linden, Y., Geijssen, D., Verschueren, K., van Herk, M. B. & Marijnen, C. A. M., Jan 2012, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 102, 1  
DOI: 10.1016/j.radonc.2011.08.011

**A novel method for megavoltage scatter correction in cone-beam CT acquired concurrent with rotational irradiation.**

Van Herk, M., van Herk, M., Ploeger, L. & Sonke, J-J., Sep 2011, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 100, 3  
DOI: 10.1016/j.radonc.2011.08.019

**Comparative study of respiratory motion correction techniques in cone-beam computed tomography.**

Van Herk, M., Rit, S., Nijkamp, J., van Herk, M. & Sonke, J-J., Sep 2011, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 100, 3  
DOI: 10.1016/j.radonc.2011.08.018

**Dealing with geometric uncertainties in dose painting by numbers: introducing the  $\Delta VH$ .**

Van Herk, M., Witte, M., Shakirin, G., Houweling, A., Peulen, H. & van Herk, M., Sep 2011, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 100, 3  
DOI: 10.1016/j.radonc.2011.08.028

**Semi-automatic delineation using weighted CT-MRI registered images for radiotherapy of nasopharyngeal cancer.**

Van Herk, M., Fitton, I., Cornelissen, S. A. P., Duppen, J. C., Steenbakkens, R. J. H. M., Peeters, S. T. H., Hoebbers, F. J. P., Kaanders, J. H. A. M., Nowak, P. J. C. M., Rasch, C. R. N. & van Herk, M., Aug 2011, In : Medical Physics. 38, 8

**Position verification for the prostate: effect on rectal wall dose.**

Van Herk, M., Haverkort, M. A. D., van de Kamer, J. B., Pieters, B. R., van Tienhoven, G., Assendelft, E., Lensing, A. L., van Herk, M., de Reijke, T. M., Stoker, J. & Koning, C. C. E., 1 Jun 2011, In : International journal of radiation oncology, biology, physics. 80, 2  
DOI: 10.1016/j.ijrobp.2010.02.016

**Residual seminal vesicle displacement in marker-based image-guided radiotherapy for prostate cancer and the impact on margin design.**

Van Herk, M., Smitsmans, M. H. P., de Bois, J., Sonke, J-J., Catton, C. N., Jaffray, D. A., Lebesque, J. V. & van Herk, M., 1 Jun 2011, In : International journal of radiation oncology, biology, physics. 80, 2  
DOI: 10.1016/j.ijrobp.2010.06.026

**Effects of setup errors and shape changes on breast radiotherapy.**

Van Herk, M., van Mourik, A., van Kranen, S., den Hollander, S., Sonke, J-J., van Herk, M. & van Vliet-Vroegindeweij, C., 1 Apr 2011, In : International journal of radiation oncology, biology, physics. 79, 5  
DOI: 10.1016/j.ijrobp.2010.07.032

**Serotonin and dopamine transporters in relation to neuropsychological functioning, personality traits and mood in young adult healthy subjects.**

Van Herk, M., Burke, S. M., van de Giessen, E., de Win, M., Schilt, T., van Herk, M., van den Brink, W. & Booij, J., Feb 2011, In : Psychological Medicine. 41, 2  
DOI: 10.1017/S0033291710000486

**Simplifying EPID dosimetry for IMRT treatment verification.**

Van Herk, M., Pecharrromán-Gallego, R., Mans, A., Sonke, J.-J., Stroom, J. C., Olaciregui-Ruiz, I., van Herk, M. & Mijnheer, B. J., Feb 2011, In : Medical Physics. 38, 2

**Finite element based bladder modeling for image-guided radiotherapy of bladder cancer.**

Van Herk, M., Chai, X., van Herk, M., van de Kamer, J. B., Hulshof, M. C. C. M., Remeijer, P., Lotz, H. T. & Bel, A., Jan 2011, In : Medical Physics. 38, 1

**Urinary obstruction in prostate cancer patients from the Dutch trial (68 Gy vs. 78 Gy): relationships with local dose, acute effects, and baseline characteristics.**

Van Herk, M., Heemsbergen, W. D., Al-Mamgani, A., Witte, M. G., van Herk, M., Pos, F. J. & Lebesque, J. V., 1 Sep 2010, In : International journal of radiation oncology, biology, physics. 78, 1  
DOI: 10.1016/j.ijrobp.2009.07.1680

**Catching errors with in vivo EPID dosimetry.**

Van Herk, M., Mans, A., Wendling, M., McDermott, L. N., Sonke, J. J., Tielenburg, R., Vijlbrief, R., Mijnheer, B., van Herk, M. & Stroom, J. C., Jun 2010, In : Medical Physics. 37, 6

**Behavior of lipiodol markers during image guided radiotherapy of bladder cancer.**

Van Herk, M., Chai, X., van Herk, M., van de Kamer, J. B., Remeijer, P., Bex, A., Betgen, A., De Reijke, T. M., Hulshof, M. C. C. M., Pos, F. J. & Bel, A., 1 May 2010, In : International journal of radiation oncology, biology, physics. 77, 1  
DOI: 10.1016/j.ijrobp.2009.08.019

**Relating dose outside the prostate with freedom from failure in the Dutch trial 68 Gy vs. 78 Gy.**

Van Herk, M., Witte, M. G., Heemsbergen, W. D., Bohoslavsky, R., Pos, F. J., Al-Mamgani, A., Lebesque, J. V. & van Herk, M., 1 May 2010, In : International journal of radiation oncology, biology, physics. 77, 1  
DOI: 10.1016/j.ijrobp.2009.04.040

**3D Dosimetric verification of volumetric-modulated arc therapy by portal dosimetry.**

Van Herk, M., Mans, A., Remeijer, P., Olaciregui-Ruiz, I., Wendling, M., Sonke, J.-J., Mijnheer, B., van Herk, M. & Stroom, J. C., Feb 2010, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 94, 2  
DOI: 10.1016/j.radonc.2009.12.020

**Correction strategies to manage deformations in head-and-neck radiotherapy.**

Van Herk, M., van Kranen, S., van Beek, S., Mencarelli, A., Rasch, C., van Herk, M. & Sonke, J.-J., Feb 2010, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 94, 2  
DOI: 10.1016/j.radonc.2009.12.016

**First clinical experience with a multiple region of interest registration and correction method in radiotherapy of head-and-neck cancer patients.**

Van Herk, M., van Beek, S., van Kranen, S., Mencarelli, A., Remeijer, P., Rasch, C., van Herk, M. & Sonke, J.-J., Feb 2010, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 94, 2  
DOI: 10.1016/j.radonc.2009.12.017

**Decreased 3D observer variation with matched CT-MRI, for target delineation in Nasopharynx cancer.**

Van Herk, M., Rasch, C. R. N., Steenbakkens, R. J. H. M., Fitton, I., Duppen, J. C., Nowak, P. J. C. M., Pameijer, F. A., Eisbruch, A., Kaanders, J. H. A. M., Paulsen, F. & van Herk, M., 2010, In : Radiation Oncology . 5  
DOI: 10.1186/1748-717X-5-21

**Strategies for online organ motion correction for intensity-modulated radiotherapy of prostate cancer: prostate, rectum, and bladder dose effects.**

Van Herk, M., Rijkhorst, E.-J., Lakeman, A., Nijkamp, J., de Bois, J., van Herk, M., Lebesque, J. V. & Sonke, J.-J., 15 Nov 2009, In : International journal of radiation oncology, biology, physics. 75, 4  
DOI: 10.1016/j.ijrobp.2009.04.034

**Lipiodol injection for target volume delineation and image guidance during radiotherapy for bladder cancer.**

Van Herk, M., Pos, F., Bex, A., Dees-Ribbers, H. M., Betgen, A., van Herk, M. & Remeijer, P., Nov 2009, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 93, 2  
DOI: 10.1016/j.radonc.2009.09.003

**Effects of respiration-induced density variations on dose distributions in radiotherapy of lung cancer.**

Van Herk, M., Mexner, V., Wolthaus, J. W. H., van Herk, M., Damen, E. M. F. & Sonke, J-J., 15 Jul 2009, In : International journal of radiation oncology, biology, physics. 74, 4  
DOI: 10.1016/j.ijrobp.2009.02.073

**A simple backprojection algorithm for 3D in vivo EPID dosimetry of IMRT treatments.**

Van Herk, M., Wendling, M., McDermott, L. N., Mans, A., Sonke, J-J., van Herk, M. & Mijnheer, B. J., Jul 2009, In : Medical Physics. 36, 7

**Frameless stereotactic body radiotherapy for lung cancer using four-dimensional cone beam CT guidance.**

Van Herk, M., Sonke, J-J., Rossi, M., Wolthaus, J., van Herk, M., Damen, E. & Belderbos, J., 1 Jun 2009, In : International journal of radiation oncology, biology, physics. 74, 2  
DOI: 10.1016/j.ijrobp.2008.08.004

**On-the-fly motion-compensated cone-beam CT using an a priori model of the respiratory motion.**

Van Herk, M., Rit, S., Wolthaus, J. W. H., van Herk, M. & Sonke, J-J., Jun 2009, In : Medical Physics. 36, 6

**Setup uncertainties of anatomical sub-regions in head-and-neck cancer patients after offline CBCT guidance.**

Van Herk, M., van Kranen, S., van Beek, S., Rasch, C., van Herk, M. & Sonke, J-J., 1 Apr 2009, In : International journal of radiation oncology, biology, physics. 73, 5  
DOI: 10.1016/j.ijrobp.2008.11.035

**Detection of in vivo dynamic 3-D motion patterns in the wrist joint.**

Van Herk, M., Carelsen, B., Jonges, R., Strackee, S. D., Maas, M., van Kemenade, P., Grimbergen, C. A., van Herk, M. & Streekstra, G. J., Apr 2009, In : IEEE transactions on bio-medical engineering. 56, 4  
DOI: 10.1109/TBME.2008.2009069

**Reconstruction of a time-averaged midposition CT scan for radiotherapy planning of lung cancer patients using deformable registration.**

Van Herk, M., Wolthaus, J. W. H., Sonke, J. J., van Herk, M. & Damen, E. M. F., Sep 2008, In : Medical Physics. 35, 9

**The influence of a dietary protocol on cone beam CT-guided radiotherapy for prostate cancer patients.**

Van Herk, M., Smitsmans, M. H. P., Pos, F. J., de Bois, J., Heemsbergen, W. D., Sonke, J-J., Lebesque, J. V. & van Herk, M., 15 Jul 2008, In : International journal of radiation oncology, biology, physics. 71, 4  
DOI: 10.1016/j.ijrobp.2008.03.036

**Impact of anatomical location on value of CT-PET co-registration for delineation of lung tumors.**

Van Herk, M., Fitton, I., Steenbakkens, R. J. H. M., Gilhuijs, K., Duppen, J. C., Nowak, P. J. C. M., van Herk, M. & Rasch, C. R. N., 1 Apr 2008, In : International journal of radiation oncology, biology, physics. 70, 5  
DOI: 10.1016/j.ijrobp.2007.08.063

**Comparison of different strategies to use four-dimensional computed tomography in treatment planning for lung cancer patients**

Wolthaus, J. W. H., Sonke, J-J., van Herk, M., Belderbos, J. S. A., Rossi, M. M. G., Lebesque, J. V. & Damen, E. M. F., 15 Mar 2008, In : International journal of radiation oncology, biology, physics. 70, 4, p. 1229-38 10 p.  
DOI: 10.1016/j.ijrobp.2007.11.042

**<sup>99m</sup>Tc Hynic-rh-Annexin V scintigraphy for in vivo imaging of apoptosis in patients with head and neck cancer treated with chemoradiotherapy.**

Van Herk, M., Hoebbers, F. J. P., Kartachova, M., de Bois, J., van den Brekel, M. W. M., van Tinteren, H., van Herk, M., Rasch, C. R. N., Valdés Olmos, R. A. & Verheij, M., Mar 2008, In : European Journal of Nuclear Medicine and Molecular

Imaging. 35, 3  
DOI: 10.1007/s00259-007-0624-x

**Variability of four-dimensional computed tomography patient models.**

Van Herk, M., Sonke, J.-J., Lebesque, J. & van Herk, M., 1 Feb 2008, In : International journal of radiation oncology, biology, physics. 70, 2  
DOI: 10.1016/j.ijrobp.2007.08.067

**3D in vivo dose verification of entire hypo-fractionated IMRT treatments using an EPID and cone-beam CT.**

Van Herk, M., McDermott, L. N., Wendling, M., Nijkamp, J., Mans, A., Sonke, J.-J., Mijnheer, B. J. & van Herk, M., Jan 2008, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 86, 1  
DOI: 10.1016/j.radonc.2007.11.010

**<sup>99m</sup>Tc-HYNIC-rh-annexin-V scintigraphy: visual and quantitative evaluation of early treatment-induced apoptosis to predict treatment outcome.**

Van Herk, M., Kartachova, M. S., Valdés Olmos, R. A., Haas, R. L. M., Hoebbers, F. J. P., van Herk, M. & Verheij, M., Jan 2008, In : Nuclear Medicine Communications. 29, 1  
DOI: 10.1097/MNM.0b013e3282f1bc22

**On-the-fly motion-compensated cone-beam CT using an a priori motion model.**

Van Herk, M., Rit, S., Wolthaus, J., van Herk, M. & Sonke, J.-J., 2008, In : Medical image computing and computer-assisted intervention : MICCAI ... International Conference on Medical Image Computing and Computer-Assisted Intervention. 11, Pt 1

**Will IGRT live up to its promise?**

Van Herk, M., 2008, In : Acta Oncologica . 47, 7, p. 1186-7 2 p.  
DOI: 10.1080/02841860802279717

**Strategy for online correction of rotational organ motion for intensity-modulated radiotherapy of prostate cancer**

Rijkhorst, E.-J., van Herk, M., Lebesque, J. V. & Sonke, J.-J., 1 Dec 2007, In : International journal of radiation oncology, biology, physics. 69, 5, p. 1608-17 10 p.  
DOI: 10.1016/j.ijrobp.2007.08.042

**Different styles of image-guided radiotherapy.**

Van Herk, M. & van Herk, M., Oct 2007, In : Seminars in Radiation Oncology. 17, 4  
DOI: 10.1016/j.semradonc.2007.07.003

**IMRT optimization including random and systematic geometric errors based on the expectation of TCP and NTCP.**

Van Herk, M., Witte, M. G., van der Geer, J., Schneider, C., Lebesque, J. V., Alber, M. & van Herk, M., Sep 2007, In : Medical Physics. 34, 9

**Kilo-voltage cone-beam computed tomography setup measurements for lung cancer patients; first clinical results and comparison with electronic portal-imaging device.**

Van Herk, M., Borst, G. R., Sonke, J.-J., Betgen, A., Remeijer, P., van Herk, M. & Lebesque, J. V., 1 Jun 2007, In : International journal of radiation oncology, biology, physics. 68, 2  
DOI: 10.1016/j.ijrobp.2007.01.014

**Short-term displacement and reproducibility of the breast and nodal targets under active breathing control.**

Moran, J. M., Balter, J. M., Ben-David, M. A., Marsh, R. B., Van Herk, M. & Pierce, L. J., 1 Jun 2007, In : International journal of radiation oncology, biology, physics. 68, 2  
DOI: 10.1016/j.ijrobp.2007.01.028

**A fast algorithm for gamma evaluation in 3D.**

Van Herk, M., Wendling, M., Zijp, L. J., McDermott, L. N., Smit, E. J., Sonke, J.-J., Mijnheer, B. J. & van Herk, M., May 2007, In : Medical Physics. 34, 5

**An adaptive off-line procedure for radiotherapy of prostate cancer.**

Van Herk, M., Nuver, T. T., Hoogeman, M. S., Remeijer, P., van Herk, M. & Lebesque, J. V., 1 Apr 2007, In : International journal of radiation oncology, biology, physics. 67, 5  
DOI: 10.1016/j.ijrobp.2006.12.010

**Replacing pretreatment verification with in vivo EPID dosimetry for prostate IMRT.**

Van Herk, M., McDermott, L. N., Wendling, M., Sonke, J.-J., van Herk, M. & Mijnheer, B. J., 1 Apr 2007, In : International journal of radiation oncology, biology, physics. 67, 5  
DOI: 10.1016/j.ijrobp.2006.11.047

**Retrospective attenuation correction of PET data for radiotherapy planning using a free breathing CT.**

Van Herk, M., Fitton, I., Steenbakkens, R. J. H. M., Zipp, L., Duppen, J. C., Comans, E. F. I., Muller, S. H., Nowak, P. J. C. M., Rasch, C. R. N. & van Herk, M., Apr 2007, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 83, 1  
DOI: 10.1016/j.radonc.2007.02.010

**Three-dimensional heart dose reconstruction to estimate normal tissue complication probability after breast irradiation using portal dosimetry.**

Van Herk, M., Louwe, R. J. W., Wendling, M., van Herk, M. B. & Mijnheer, B. J., Apr 2007, In : Medical Physics. 34, 4

**Clinical experience with EPID dosimetry for prostate IMRT pre-treatment dose verification.**

Van Herk, M., McDermott, L. N., Wendling, M., van Asselen, B., Stroom, J., Sonke, J. J., van Herk, M. & Mijnheer, B. J., Oct 2006, In : Medical Physics. 33, 10

**The management of respiratory motion in radiation oncology report of AAPM Task Group 76.**

Keall, P. J., Mageras, G. S., Balter, J. M., Emery, R. S., Forster, K. M., Jiang, S. B., Kapatoes, J. M., Low, D. A., Murphy, M. J., Murray, B. R., Ramsey, C. R., Van Herk, M. B., Vedam, S. S., Wong, J. W. & Yorke, E., Oct 2006, In : Medical Physics. 33, 10

**Mid-ventilation CT scan construction from four-dimensional respiration-correlated CT scans for radiotherapy planning of lung cancer patients.**

Van Herk, M., Wolthaus, J. W. H., Schneider, C., Sonke, J.-J., van Herk, M., Belderbos, J. S. A., Rossi, M. M. G., Lebesque, J. V. & Damen, E. M. F., 1 Aug 2006, In : International journal of radiation oncology, biology, physics. 65, 5  
DOI: 10.1016/j.ijrobp.2006.04.031

**Short-term and long-term reproducibility of lung tumor position using active breathing control (ABC).**

Van Herk, M., Kashani, R., Koshani, R., Balter, J. M., Hayman, J. A., Henning, G. T. & van Herk, M., 1 Aug 2006, In : International journal of radiation oncology, biology, physics. 65, 5  
DOI: 10.1016/j.ijrobp.2006.04.027

**Mapping of treatment-induced apoptosis in normal structures: <sup>99m</sup>Tc-Hynic-rh-annexin V SPECT and CT image fusion**

Kartachova, M. S., Valdés Olmos, R. A., Haas, R. L. M., Hoebbers, F. J. P., van den Brekel, M. W., van Zandwijk, N., Herk, M. V. & Verheij, M., Aug 2006, In : European Journal of Nuclear Medicine and Molecular Imaging. 33, 8, p. 893-97 p.  
DOI: 10.1007/s00259-006-0070-1

**Impact of geometrical uncertainties on 3D CRT and IMRT dose distributions for lung cancer treatment.**

Schwarz, M., Van der Geer, J., Van Herk, M., Lebesque, J. V., Mijnheer, B. J. & Damen, E. M. F., 15 Jul 2006, In : International journal of radiation oncology, biology, physics. 65, 4  
DOI: 10.1016/j.ijrobp.2006.03.035

**Comparison of ghosting effects for three commercial a-Si EPIDs.**

Van Herk, M., McDermott, L. N., Nijsten, S. M. J. J. G., Sonke, J.-J., Partridge, M., van Herk, M. & Mijnheer, B. J., Jul 2006, In : Medical Physics. 33, 7



**Anatomy changes in radiotherapy detected using portal imaging.**

Van Herk, M., McDermott, L. N., Wendling, M., Sonke, J.-J., van Herk, M. & Mijnheer, B. J., May 2006, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 79, 2  
DOI: 10.1016/j.radonc.2006.04.003

**Tumor motion and deformation during external radiotherapy of bladder cancer.**

Van Herk, M., Lotz, H. T., Pos, F. J., Hulshof, M. C. C. M., van Herk, M., Lebesque, J. V., Duppen, J. C. & Remeijer, P., 1 Apr 2006, In : International journal of radiation oncology, biology, physics. 64, 5  
DOI: 10.1016/j.ijrobp.2005.12.025

**Reduction of observer variation using matched CT-PET for lung cancer delineation: a three-dimensional analysis.**

Van Herk, M., Steenbakkers, R. J. H. M., Duppen, J. C., Fitton, I., Deurloo, K. E. I., Zijp, L. J., Comans, E. F. I., Uitterhoeve, A. L. J., Rodrigus, P. T. R., Kramer, G. W. P., Bussink, J., De Jaeger, K., Belderbos, J. S. A., Nowak, P. J. C. M., van Herk, M. & Rasch, C. R. N., 1 Feb 2006, In : International journal of radiation oncology, biology, physics. 64, 2  
DOI: 10.1016/j.ijrobp.2005.06.034

**Accurate two-dimensional IMRT verification using a back-projection EPID dosimetry method.**

Van Herk, M., Wendling, M., Louwe, R. J. W., McDermott, L. N., Sonke, J.-J., van Herk, M. & Mijnheer, B. J., Feb 2006, In : Medical Physics. 33, 2

**Automatic prostate localization on cone-beam CT scans for high precision image-guided radiotherapy.**

Van Herk, M., Smitsmans, M. H. P., de Bois, J., Sonke, J.-J., Betgen, A., Zijp, L. J., Jaffray, D. A., Lebesque, J. V. & van Herk, M., 15 Nov 2005, In : International journal of radiation oncology, biology, physics. 63, 4  
DOI: 10.1016/j.ijrobp.2005.07.973

**Observer variation in target volume delineation of lung cancer related to radiation oncologist-computer interaction: a 'Big Brother' evaluation.**

Van Herk, M., Steenbakkers, R. J. H. M., Duppen, J. C., Fitton, I., Deurloo, K. E. I., Zijp, L., Uitterhoeve, A. L. J., Rodrigus, P. T. R., Kramer, G. W. P., Bussink, J., De Jaeger, K., Belderbos, J. S. A., Hart, A. A. M., Nowak, P. J. C. M., van Herk, M. & Rasch, C. R. N., Nov 2005, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 77, 2  
DOI: 10.1016/j.radonc.2005.09.017

**Reproducibility of the bladder shape and bladder shape changes during filling.**

Van Herk, M., Lotz, H. T., van Herk, M., Betgen, A., Pos, F., Lebesque, J. V. & Remeijer, P., Aug 2005, In : Medical Physics. 32, 8

**Target definition in prostate, head, and neck.**

Van Herk, M., Rasch, C., Steenbakkers, R. & van Herk, M., Jul 2005, In : Seminars in Radiation Oncology. 15, 3

**The applicability of simultaneous TRUS-CT imaging for the evaluation of prostate seed implants.**

Van Herk, M., Steggerda, M., Schneider, C., van Herk, M., Zijp, L., Moonen, L. & van der Poel, H., Jul 2005, In : Medical Physics. 32, 7

**The sensitivity of dose distributions for organ motion and set-up uncertainties in prostate IMRT.**

Van Herk, M., Bos, L. J., van der Geer, J., van Herk, M., Mijnheer, B. J., Lebesque, J. V. & Damen, E. M. F., Jul 2005, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 76, 1  
DOI: 10.1016/j.radonc.2005.06.010

**Prostate gland motion assessed with cine-magnetic resonance imaging (cine-MRI).**

Ghilezan, M. J., Jaffray, D. A., Siewerdsen, J. H., Van Herk, M., Shetty, A., Sharpe, M. B., Zafar Jafri, S., Vicini, F. A., Matter, R. C., Brabbins, D. S. & Martinez, A. A., 1 Jun 2005, In : International journal of radiation oncology, biology, physics. 62, 2  
DOI: 10.1016/j.ijrobp.2003.10.017

**Fusion of respiration-correlated PET and CT scans: correlated lung tumour motion in anatomical and functional scans.**

Van Herk, M., Wolthaus, J. W. H., van Herk, M., Muller, S. H., Belderbos, J. S. A., Lebesque, J. V., de Bois, J. A., Rossi, M. M. G. & Damen, E. M. F., 7 Apr 2005, In : Physics in Medicine and Biology. 50, 7  
DOI: 10.1088/0031-9155/50/7/017

**Respiratory correlated cone beam CT.**

Van Herk, M., Sonke, J.-J., Zijp, L., Remeijer, P. & van Herk, M., Apr 2005, In : Medical Physics. 32, 4

**Strategies to reduce the systematic error due to tumor and rectum motion in radiotherapy of prostate cancer.**

Van Herk, M., Hoogeman, M. S., van Herk, M., de Bois, J. & Lebesque, J. V., Feb 2005, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 74, 2  
DOI: 10.1016/j.radonc.2004.12.010

**Quantification of shape variation of prostate and seminal vesicles during external beam radiotherapy.**

Van Herk, M., Deurloo, K. E. I., Steenbakkers, R. J. H. M., Zijp, L. J., de Bois, J. A., Nowak, P. J. C. M., Rasch, C. R. N. & van Herk, M., 1 Jan 2005, In : International journal of radiation oncology, biology, physics. 61, 1  
DOI: 10.1016/j.ijrobp.2004.09.023

**Impact of knee support and shape of tabletop on rectum and prostate position.**

Van Herk, M., Steenbakkers, R. J. H. M., Duppen, J. C., Betgen, A., Lotz, H. T., Remeijer, P., Fitton, I., Nowak, P. J. C. M., van Herk, M. & Rasch, C. R. N., 1 Dec 2004, In : International journal of radiation oncology, biology, physics. 60, 5  
DOI: 10.1016/j.ijrobp.2004.05.060

**The effects of target size and tissue density on the minimum margin required for random errors.**

Van Herk, M., Witte, M. G., van der Geer, J., Schneider, C., Lebesque, J. V. & van Herk, M., Nov 2004, In : Medical Physics. 31, 11

**The long-term stability of amorphous silicon flat panel imaging devices for dosimetry purposes.**

Van Herk, M., Louwe, R. J. W., McDermott, L. N., Sonke, J. J., Tielenburg, R., Wendling, M., van Herk, M. B. & Mijnheer, B. J., Nov 2004, In : Medical Physics. 31, 11

**Automatic localization of the prostate for on-line or off-line image-guided radiotherapy.**

Van Herk, M., Smitsmans, M. H. P., Wolthaus, J. W. H., Artignan, X., de Bois, J., Jaffray, D. A., Lebesque, J. V. & van Herk, M., 1 Oct 2004, In : International journal of radiation oncology, biology, physics. 60, 2  
DOI: 10.1016/j.ijrobp.2004.05.027

**A model to predict bladder shapes from changes in bladder and rectal filling.**

Van Herk, M., Lotz, H. T., Remeijer, P., van Herk, M., Lebesque, J. V., de Bois, J. A., Zijp, L. J. & Moonen, L. M., Jun 2004, In : Medical Physics. 31, 6

**The stability of liquid-filled matrix ionization chamber electronic portal imaging devices for dosimetry purposes.**

Van Herk, M., Louwe, R. J. W., Tielenburg, R., van Ingen, K. M., Mijnheer, B. J. & van Herk, M. B., Apr 2004, In : Medical Physics. 31, 4

**Dose-response and ghosting effects of an amorphous silicon electronic portal imaging device.**

Van Herk, M., McDermott, L. N., Louwe, R. J. W., Sonke, J. J., van Herk, M. B. & Mijnheer, B. J., Feb 2004, In : Medical Physics. 31, 2

**Leaf trajectory verification during dynamic intensity modulated radiotherapy using an amorphous silicon flat panel imager.**

Van Herk, M., Sonke, J.-J., Ploeger, L. S., Brand, B., Smitsmans, M. H. P. & van Herk, M., Feb 2004, In : Medical Physics. 31, 2

**Errors and margins in radiotherapy.**

Van Herk, M. & van Herk, M., Jan 2004, In : Seminars in Radiation Oncology. 14, 1  
DOI: 10.1053/j.semradonc.2003.10.003

**Quantification of local rectal wall displacements by virtual rectum unfolding.**

Van Herk, M., Hoogeman, M. S., van Herk, M., de Bois, J., Muller-Timmermans, P., Koper, P. C. M. & Lebesque, J. V., Jan 2004, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 70, 1  
DOI: 10.1016/j.radonc.2003.11.015

**Biologic and physical fractionation effects of random geometric errors.**

Van Herk, M., van Herk, M., Witte, M., van der Geer, J., Schneider, C. & Lebesque, J. V., 1 Dec 2003, In : International journal of radiation oncology, biology, physics. 57, 5

**Reduction of dose delivered to the rectum and bulb of the penis using MRI delineation for radiotherapy of the prostate.**

Van Herk, M., Steenbakkers, R. J. H. M., Deurloo, K. E. I., Nowak, P. J. C. M., Lebesque, J. V., van Herk, M. & Rasch, C. R. N., 1 Dec 2003, In : International journal of radiation oncology, biology, physics. 57, 5

**Application of video imaging for improvement of patient set-up.**

Van Herk, M., Ploeger, L. S., Frenay, M., Betgen, A., de Bois, J. A., Gilhuijs, K. G. A. & van Herk, M., Sep 2003, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 68, 3

**Three-dimensional dose reconstruction of breast cancer treatment using portal imaging.**

Van Herk, M., Louwe, R. J. W., Damen, E. M. F., van Herk, M., Minken, A. W. H., Törzsök, O. & Mijnheer, B. J., Sep 2003, In : Medical Physics. 30, 9

**Focal spot motion of linear accelerators and its effect on portal image analysis.**

Van Herk, M., Sonke, J.-J., Brand, B. & van Herk, M., Jun 2003, In : Medical Physics. 30, 6

**The theoretical benefit of beam fringe compensation and field size reduction for iso-normal tissue complication probability dose escalation in radiotherapy of lung cancer.**

Van Herk, M., Engelsman, M., Remeijer, P., van Herk, M., Mijnheer, B. & Damen, E., Jun 2003, In : Medical Physics. 30, 6

**Evaluation of cost functions for gray value matching of two-dimensional images in radiotherapy.**

Van Herk, M., Dekker, N., Ploeger, L. S. & van Herk, M., May 2003, In : Medical Physics. 30, 5

**Feasibility of geometrical verification of patient set-up using body contours and computed tomography data.**

Van Herk, M., Ploeger, L. S., Betgen, A., Gilhuijs, K. G. A. & van Herk, M., Feb 2003, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 66, 2

**Portal imaging to assess set-up errors, tumor motion and tumor shrinkage during conformal radiotherapy of non-small cell lung cancer.**

Van Herk, M., Erridge, S. C., Seppenwoolde, Y., Muller, S. H., van Herk, M., De Jaeger, K., Belderbos, J. S. A., Boersma, L. J. & Lebesque, J. V., Jan 2003, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 66, 1

**When should systematic patient positioning errors in radiotherapy be corrected?**

Van Herk, M., Bortfeld, T., van Herk, M. & Jiang, S. B., 7 Dec 2002, In : Physics in Medicine and Biology. 47, 23

**A model to simulate day-to-day variations in rectum shape.**

Van Herk, M., Hoogeman, M. S., van Herk, M., Yan, D., Boersma, L. J., Koper, P. C. M. & Lebesque, J. V., 1 Oct 2002, In : International journal of radiation oncology, biology, physics. 54, 2

**The effect of set-up uncertainties, contour changes, and tissue inhomogeneities on target dose-volume histograms.**

Van Herk, M., Cho, B. C. J., van Herk, M., Mijnheer, B. J. & Bartelink, H., Oct 2002, In : Medical Physics. 29, 10

**Precise and real-time measurement of 3D tumor motion in lung due to breathing and heartbeat, measured during radiotherapy.**

Van Herk, M., Seppenwoolde, Y., Shirato, H., Kitamura, K., Shimizu, S., van Herk, M., Lebesque, J. V. & Miyasaka, K., 15 Jul 2002, In : International journal of radiation oncology, biology, physics. 53, 4

**Margins for translational and rotational uncertainties: a probability-based approach.**

Van Herk, M., Remeijer, P., Rasch, C., Lebesque, J. V. & van Herk, M., 1 Jun 2002, In : International journal of radiation oncology, biology, physics. 53, 2

**A method for geometrical verification of dynamic intensity modulated radiotherapy using a scanning electronic portal imaging device.**

Van Herk, M., Ploeger, L. S., Smitsmans, M. H. P., Gilhuijs, K. G. A. & van Herk, M., Jun 2002, In : Medical Physics. 29, 6

**Inclusion of geometric uncertainties in treatment plan evaluation.**

Van Herk, M., van Herk, M., Remeijer, P. & Lebesque, J. V., 1 Apr 2002, In : International journal of radiation oncology, biology, physics. 52, 5

**Margins for geometric uncertainty around organs at risk in radiotherapy.**

Van Herk, M., McKenzie, A., van Herk, M. & Mijnheer, B., Mar 2002, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 62, 3

**Time trends in organ position and volume in patients receiving prostate three-dimensional conformal radiotherapy.**

Van Herk, M., Mechalakos, J. G., Mageras, G. S., Zelefsky, M. J., Lyass, O., van Herk, M., Kooy, H. M., Leibel, S. A. & Ling, C. C., Mar 2002, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 62, 3

**Irradiation of paranasal sinus tumors, a delineation and dose comparison study.**

Van Herk, M., Rasch, C., Eisbruch, A., Remeijer, P., Bos, L., Hoogeman, M., van Herk, M. & Lebesque, J. V., 1 Jan 2002, In : International journal of radiation oncology, biology, physics. 52, 1

**Field size reduction enables iso-NTCP escalation of tumor control probability for irradiation of lung tumors.**

Van Herk, M., Engelsman, M., Remeijer, P., van Herk, M., Lebesque, J. V., Mijnheer, B. J. & Damen, E. M., 1 Dec 2001, In : International journal of radiation oncology, biology, physics. 51, 5

**Clinical use of electronic portal imaging: report of AAPM Radiation Therapy Committee Task Group 58.**

Herman, M. G., Balter, J. M., Jaffray, D. A., McGee, K. P., Munro, P., Shalev, S., Van Herk, M. & Wong, J. W., May 2001, In : Medical Physics. 28, 5

**Accurate measurement of the dynamic response of a scanning electronic portal imaging device.**

Van Herk, M., Ploeger, L. S., Smitsmans, M. H., Gilhuijs, K. G. & van Herk, M., Mar 2001, In : Medical Physics. 28, 3

**Physical aspects of a real-time tumor-tracking system for gated radiotherapy.**

Van Herk, M., Shirato, H., Shimizu, S., Kunieda, T., Kitamura, K., van Herk, M., Kagei, K., Nishioka, T., Hashimoto, S., Fujita, K., Aoyama, H., Tsuchiya, K., Kudo, K. & Miyasaka, K., 1 Nov 2000, In : International journal of radiation oncology, biology, physics. 48, 4

**The width of margins in radiotherapy treatment plans.**

Van Herk, M., McKenzie, A. L., van Herk, M. & Mijnheer, B., Nov 2000, In : Physics in Medicine and Biology. 45, 11

**Target volumes in radiotherapy for high-grade malignant glioma of the brain.**

Van Herk, M., Jansen, E. P., Dewit, L. G., van Herk, M. & Bartelink, H., Aug 2000, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 56, 2

**The accuracy of image registration for the brain and the nasopharynx using external anatomical landmarks.**

Van Herk, M., Peters, A. R., Muller, S. H., de Munck, J. C. & van Herk, M., Aug 2000, In : Physics in Medicine and Biology. 45, 8

**The probability of correct target dosage: dose-population histograms for deriving treatment margins in radiotherapy.**

Van Herk, M., van Herk, M., Remeijer, P., Rasch, C. & Lebesque, J. V., 1 Jul 2000, In : International journal of radiation oncology, biology, physics. 47, 4

**Leaf position verification during dynamic beam delivery: a comparison of three applications using electronic portal imaging.**

Van Herk, M., Partridge, M., Evans, P. M., van Herk, M., Ploeger, L. S., Budgell, G. J. & James, H. V., Jul 2000, In : Medical Physics. 27, 7

**3-D portal image analysis in clinical practice: an evaluation of 2-D and 3-D analysis techniques as applied to 30 prostate cancer patients.**

Van Herk, M., Remeijer, P., Geerlof, E., Ploeger, L., Gilhuijs, K., van Herk, M. & Lebesque, J. V., 15 Mar 2000, In : International journal of radiation oncology, biology, physics. 46, 5

**Comparison of prostate cancer treatment in two institutions: a quality control study.**

Van Herk, M., Rasch, C., Remeijer, P., Koper, P. C., Meijer, G. J., Stroom, J. C., van Herk, M. & Lebesque, J. V., 1 Nov 1999, In : International journal of radiation oncology, biology, physics. 45, 4

**A general methodology for three-dimensional analysis of variation in target volume delineation.**

Van Herk, M., Remeijer, P., Rasch, C., Lebesque, J. V. & van Herk, M., Jun 1999, In : Medical Physics. 26, 6

**Quantification and predictors of prostate position variability in 50 patients evaluated with multiple CT scans during conformal radiotherapy.**

Van Herk, M., Zelefsky, M. J., Crean, D., Mageras, G. S., Lyass, O., Happersett, L., Ling, C. C., Leibel, S. A., Fuks, Z., Bull, S., Kooy, H. M., van Herk, M. & Kutcher, G. J., Feb 1999, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 50, 2

**Computerized design of target margins for treatment uncertainties in conformal radiotherapy.**

Van Herk, M., Mageras, G. S., Fuks, Z., Leibel, S. A., Ling, C. C., Zelefsky, M. J., Kooy, H. M., van Herk, M. & Kutcher, G. J., 15 Jan 1999, In : International journal of radiation oncology, biology, physics. 43, 2

**Definition of the prostate in CT and MRI: a multi-observer study.**

Van Herk, M., Rasch, C., Barillot, I., Remeijer, P., Touw, A., van Herk, M. & Lebesque, J. V., 1 Jan 1999, In : International journal of radiation oncology, biology, physics. 43, 1

**Automatic registration of pelvic computed tomography data and magnetic resonance scans including a full circle method for quantitative accuracy evaluation.**

Van Herk, M., van Herk, M., de Munck, J. C., Lebesque, J. V., Muller, S., Rasch, C. & Touw, A., Oct 1998, In : Medical Physics. 25, 10

**Automatic three-dimensional matching of CT-SPECT and CT-CT to localize lung damage after radiotherapy.**

Van Herk, M., Kwa, S. L., Theuvs, J. C., van Herk, M., Damen, E. M., Boersma, L. J., Baas, P., Muller, S. H. & Lebesque, J. V., Jun 1998, In : Journal of nuclear medicine : official publication, Society of Nuclear Medicine. 39, 6

**First clinical tests using a liquid-filled electronic portal imaging device and a convolution model for the verification of the midplane dose.**

Van Herk, M., Boellaard, R., van Herk, M., Uiterwaal, H. & Mijnheer, B., Jun 1998, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 47, 3

**New method to obtain the midplane dose using portal in vivo dosimetry.**

Van Herk, M., Boellaard, R., Essers, M., van Herk, M. & Mijnheer, B. J., 1 May 1998, In : International journal of radiation oncology, biology, physics. 41, 2

**Registration of MR and SPECT without using external fiducial markers.**

Van Herk, M., de Munck, J. C., Verster, F. C., Dubois, E. A., Habraken, J. B., Boltjes, B., Claus, J. J. & van Herk, M., May 1998, In : Physics in Medicine and Biology. 43, 5

**The potential impact of CT-MRI matching on tumor volume delineation in advanced head and neck cancer.**

Van Herk, M., Rasch, C., Keus, R., Pameijer, F. A., Koops, W., de Ru, V., Muller, S., Touw, A., Bartelink, H., van Herk, M. & Lebesque, J. V., 1 Nov 1997, In : International journal of radiation oncology, biology, physics. 39, 4

**Two-dimensional exit dosimetry using a liquid-filled electronic portal imaging device and a convolution model.**

Van Herk, M., Boellaard, R., van Herk, M., Uiterwaal, H. & Mijnheer, B., Aug 1997, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 44, 2

**Demonstration of a reduction in muscarinic receptor binding in early Alzheimer's disease using iodine-123 dexametomidine single-photon emission tomography.**

Van Herk, M., Claus, J. J., Dubois, E. A., Booij, J., Habraken, J., de Munck, J. C., van Herk, M., Verbeeten, B. & Royen, E. A., Jun 1997, In : European Journal of Nuclear Medicine. 24, 6

**A convolution model to convert transmission dose images to exit dose distributions.**

Van Herk, M., Boellaard, R., van Herk, M. & Mijnheer, B. J., Feb 1997, In : Medical Physics. 24, 2

**Effect of image artifacts, organ motion, and poor segmentation on the reliability and accuracy of three-dimensional chamfer matching.**

Van Herk, M., van Herk, M., Gilhuijs, K. G., de Munck, J. & Touw, A., 1997, In : Computer aided surgery : official journal of the International Society for Computer Aided Surgery. 2, 6

DOI: 10.1002/(SICI)1097-0150(1997)2:6<346::AID-IGS5>3.0.CO;2-#

**Target margins for random geometrical treatment uncertainties in conformal radiotherapy.**

Van Herk, M., Bel, A., van Herk, M. & Lebesque, J. V., Sep 1996, In : Medical Physics. 23, 9

**The dose response relationship of a liquid-filled electronic portal imaging device.**

Van Herk, M., Boellaard, R., van Herk, M. & Mijnheer, B. J., Sep 1996, In : Medical Physics. 23, 9

**Interactive three dimensional inspection of patient setup in radiation therapy using digital portal images and computed tomography data.**

Van Herk, M., Gilhuijs, K. G., Drukker, K., Touw, A., van de Ven, P. J. & van Herk, M., 1 Mar 1996, In : International journal of radiation oncology, biology, physics. 34, 4

**Transmission dosimetry with a liquid-filled electronic portal imaging device.**

Van Herk, M., Essers, M., Boellaard, R., van Herk, M., Lanson, H. & Mijnheer, B., 1 Mar 1996, In : International journal of radiation oncology, biology, physics. 34, 4

**Automatic three-dimensional inspection of patient setup in radiation therapy using portal images, simulator images, and computed tomography data.**

Van Herk, M., Gilhuijs, K. G., van de Ven, P. J. & van Herk, M., Mar 1996, In : Medical Physics. 23, 3

**The computation of MR image distortions caused by tissue susceptibility using the boundary element method.**

de Munck, J. C., Bhagwandien, R., Muller, S. H., Verster, F. C. & Van Herk, M. B., 1996, In : IEEE Transactions on Medical Imaging. 15, 5

DOI: 10.1109/42.538939

**Dosimetric characteristics of a liquid-filled electronic portal imaging device.**

Van Herk, M., Essers, M., Hoogervorst, B. R., van Herk, M., Lanson, H. & Mijnheer, B. J., 1 Dec 1995, In : International journal of radiation oncology, biology, physics. 33, 5

DOI: 10.1016/0360-3016(95)00108-5

**Quantification of organ motion during conformal radiotherapy of the prostate by three dimensional image registration.**

Van Herk, M., van Herk, M., Bruce, A., Kroes, A. P., Shouman, T., Touw, A. & Lebesque, J. V., 1 Dec 1995, In : International journal of radiation oncology, biology, physics. 33, 5

**Variation in volumes, dose-volume histograms, and estimated normal tissue complication probabilities of rectum and bladder during conformal radiotherapy of T3 prostate cancer.**

Van Herk, M., Lebesque, J. V., Bruce, A. M., Kroes, A. P., Touw, A., Shouman, R. T. & van Herk, M., 1 Dec 1995, In : International journal of radiation oncology, biology, physics. 33, 5

**Electronic portal imaging.**

Van Herk, M., van Herk, M., Bel, A., Gilhuijs, K. G., Lebesque, J. V., van Dalen, A., van der Ven, P. & Vijlbrief, R., Dec 1995, In : Bulletin du cancer. 82 Suppl 5

**Magnetic resonance image-directed stereotactic neurosurgery: use of image fusion with computerized tomography to enhance spatial accuracy.**

Van Herk, M., Alexander, E., Kooy, H. M., van Herk, M., Schwartz, M., Barnes, P. D., Tarbell, N., Mulkern, R. V., Holupka, E. J. & Loeffler, J. S., Aug 1995, In : Journal of neurosurgery. 83, 2  
DOI: 10.3171/jns.1995.83.2.0271

**Optimization of automatic portal image analysis.**

Van Herk, M., Gilhuijs, K. G., Touw, A., van Herk, M. & Vijlbrief, R. E., Jul 1995, In : Medical Physics. 22, 7

**Automatic three-dimensional correlation of CT-CT, CT-MRI, and CT-SPECT using chamfer matching.**

Van Herk, M., van Herk, M. & Kooy, H. M., Jul 1994, In : Medical Physics. 21, 7

**Image fusion for stereotactic radiotherapy and radiosurgery treatment planning.**

Van Herk, M., Kooy, H. M., van Herk, M., Barnes, P. D., Alexander, E., Dunbar, S. F., Tarbell, N. J., Mulkern, R. V., Holupka, E. J. & Loeffler, J. S., 30 Mar 1994, In : International journal of radiation oncology, biology, physics. 28, 5

**A comprehensive system for the analysis of portal images.**

Van Herk, M., van Herk, M., Bel, A., Gilhuijs, K. G. & Vijlbrief, R. E., Nov 1993, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 29, 2

**A verification procedure to improve patient set-up accuracy using portal images.**

Van Herk, M., Bel, A., van Herk, M., Bartelink, H. & Lebesque, J. V., Nov 1993, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 29, 2

**An algorithm for automatic analysis of portal images: clinical evaluation for prostate treatments.**

Van Herk, M., Gilhuijs, K. G., el-Gayed, A. A., van Herk, M. & Vijlbrief, R. E., Nov 1993, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 29, 2

**Verification of lung attenuator positioning before total body irradiation using an electronic portal imaging device.**

Van Herk, M., Gladstone, D. J., van Herk, M. & Chin, L. M., 30 Sep 1993, In : International journal of radiation oncology, biology, physics. 27, 2

**Automatic on-line inspection of patient setup in radiation therapy using digital portal images.**

Van Herk, M., Gilhuijs, K. G. & van Herk, M., 1993, In : Medical Physics. 20, 3, p. 667-77  
DOI: 10.1118/1.597016

**A fast algorithm for local minimum and maximum filters on rectangular and octagonal kernels**

van Herk, M., Jul 1992, In : Pattern Recognition Letters. 13, 7, p. 517-521 5 p.  
DOI: 10.1016/0167-8655(92)90069-C

**A review of electronic portal imaging devices (EPIDs).**

Boyer, A. L., Antonuk, L., Fenster, A., Van Herk, M., Meertens, H., Munro, P., Reinstein, L. E. & Wong, J., 1992, In : Medical Physics. 19, 1  
DOI: 10.1118/1.596878

**Automatic verification of radiation field shape using digital portal images.**

Van Herk, M., Bijhold, J., Gilhuijs, K. G. & van Herk, M., 1992, In : Medical Physics. 19, 4, p. 1007-14  
DOI: 10.1118/1.596818

**Sampling methods for a matrix ionization chamber system.**

Van Herk, M., van Herk, M., Bijhold, J., Hoogervorst, B. & Meertens, H., 1992, In : Medical Physics. 19, 2, p. 409-18

**Fast evaluation of patient set-up during radiotherapy by aligning features in portal and simulator images.**

Van Herk, M., Bijhold, J., van Herk, M., Vijlbrief, R. & Lebesque, J. V., Dec 1991, In : Physics in Medicine and Biology. 36, 12

**Radiation field edge detection in portal images.**

Van Herk, M., Bijhold, J., Gilhuijs, K. G., van Herk, M. & Meertens, H., Dec 1991, In : Physics in Medicine and Biology. 36, 12

**Physical aspects of a liquid-filled ionization chamber with pulsed polarizing voltage.**

Van Herk, M. & van Herk, M., 1991, In : Medical Physics. 18, 4

**First clinical experience with a newly developed electronic portal imaging device.**

Van Herk, M., Meertens, H., van Herk, M., Bijhold, J. & Bartelink, H., May 1990, In : International journal of radiation oncology, biology, physics. 18, 5

**An inverse filter for digital restoration of portal images.**

Van Herk, M., Meertens, H., van Herk, M. & Weeda, J., Jun 1988, In : Physics in Medicine and Biology. 33, 6

**A matrix ionisation chamber imaging device for on-line patient setup verification during radiotherapy.**

Van Herk, M., van Herk, M. & Meertens, H., Apr 1988, In : Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology. 11, 4

**A liquid ionisation detector for digital radiography of therapeutic megavoltage photon beams.**

Van Herk, M., Meertens, H., van Herk, M. & Weeda, J., Apr 1985, In : Physics in Medicine and Biology. 30, 4

## **Activities**

**Debate: This house believes that margin reduction is the key to improved outcome. For the motion**

Marcel Van Herk (Speaker)  
28 Apr 2019

**Cutting Edges and Challenges: Data Sharing: Needs, Opportunities and Issues.**

Marcel Van Herk (Invited speaker)  
27 Mar 2019

**Predicting Tumour Control and Survival: Upcoming Results on Treatment Failure and Survival**

Marcel Van Herk (Invited speaker)  
26 Mar 2019

**IGRT for CNS and Head and Neck**

Marcel Van Herk (Speaker)  
20 Feb 2019

**Uncertainties in image registration and contour propagation**

Marcel Van Herk (Speaker)



20 Feb 2019

**Technology: Planar imaging, MV and kV**

Marcel Van Herk (Speaker)

18 Feb 2019

**Learning from every SBRT patient treated**

Marcel Van Herk (Invited speaker)

5 Oct 2018

**Adaptive planning strategies - Robust & probabilistic planning - Rigid and non-rigid multimodality image registration**

Marcel Van Herk (Invited speaker)

25 Sep 2018

**Adaptive Radiotherapy**

Marcel Van Herk (Invited speaker)

4 Jul 2018

**Adaptive Radiotherapy: Adaptive RT Developments**

Marcel Van Herk (Invited speaker)

Jul 2018

**Radiation Oncology Physics and Systems: Learning from every patient treated**

Marcel Van Herk (Keynote speaker)

Jun 2018

**ESTRO 23, October 2004**

Marcel Van Herk (Participant)

Oct 2004

**Prizes**

**Award**

Marcel Van Herk (Recipient), 2015

**Breur Award**

Marcel Van Herk (Recipient), 2004

**Impact Award**

Marcel Van Herk (Recipient), 19 Jun 2018

**Awards**

**Projects**

**15HLTO8 Consortium - EURAMET - EMPIR**

Van Herk, M. & Kirkby, K.

1/06/16 → 31/05/19

**A Tool for Predicting an Individual Prostate Cancer Patient's Risk of Metastasis and Need for Lymph Node Irradiation.**

Choudhury, A., Kirkby, N., McWilliam, A., Van Herk, M. & West, C.

1/03/17 → 29/02/20

### **Advanced Radiotherapies Technologies Network (ART-NET)**

Faivre-Finn, C., Illidge, T., Kirkby, K. & Van Herk, M.

1/08/16 → 31/07/21

### **NIHR Biomedical Research Centre: Cancer Advanced Radiotherapy Theme.**

West, C., Bristow, R., Bruce, I., Burnet, N., Choudhury, A., Evans, D., Faivre-Finn, C., Hoskin, P., Illidge, T., Kirkby, K., Kirkby, N., O'Connor, J. & Van Herk, M.

1/04/17 → 31/03/19

## **Datasets**

### **Considerable interobserver variation in delineation of pancreatic cancer on 3DCT and 4DCT: a multi-institutional study**

Versteijne, E. (Contributor), figshare, 23 Mar 2017

DOI: <https://doi.org/10.6084/m9.figshare.c.3725035.v1>,

[https://figshare.com/collections/Considerable\\_interobserver\\_variation\\_in\\_delineation\\_of\\_pancreatic\\_cancer\\_on\\_3DCT\\_and\\_4DCT\\_a\\_multi-institutional\\_study/3725035/1](https://figshare.com/collections/Considerable_interobserver_variation_in_delineation_of_pancreatic_cancer_on_3DCT_and_4DCT_a_multi-institutional_study/3725035/1)

### **Prospective evaluation of relationships between radiotherapy dose to masticatory apparatus and trismus**

Hague, C. (Creator), Beasley, W. (Creator), Garcez, K. (Creator), Lee, L. W. (Creator), Mcpartlin, A. (Creator), Mcwilliam, A. (Creator), Ryder, D. (Creator), Sykes, A. J. (Creator), Thomson, D. (Creator), Van Herk, M. (Creator), West, C. (Creator), Slevin, N. (Creator), figshare , 9 Apr 2018

DOI: <https://doi.org/10.6084/m9.figshare.6116009>