Clinical Oncology
The Royal College of Radiologists

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The Royal College of Radiologists
RCR-Cyclotron Trust Visiting Fellowships 2014/15 (Clinical Oncology)

POST-VISIT REPORT

PLEASE NOTE: This report must be completed and emailed to the RCR within 2 months of the end of your visit.

1. Name of Visiting Fellow	**Nachiappan Palaniappan**	
2. Name of joint Visiting Fellow (if applicable)	**Anthony Millin**	
3. Institution(s) of Visiting Fellow(s)	**Velindre Cancer Centre, Cardiff**	
4. Name of Host(s)	**Dr. Roi Dagan**	
5. Institution(s) of host(s)	**University of Florida Proton Therapy Institute**	
6. Expenses claimed	**£ 1872.49**	
7. Visit Dates (ACTUAL)	**a. Start Date 13/06/2016**	**b. End Date 24/06/2016**
8. 2nd visit dates (if applicable)	**a. Start date**	**b. End Date**
9. Aims of the visit		
To observe and understand: 1. The use of PBT in Skull base malignancies and head and neck cancer 2. Patient selection criteria for proton treatment for both subsites 3. The difference between photon and proton treatment planning 4. The difference in acute and late reactions between photon and proton treatment 5. The tolerance doses used in planning PBT 6. The basis of PTV margins 7. Range uncertainties and the strategies to account for uncertainties during treatment 8. Research in PBT 9. Patient perspective of PBT 10. To build collaboration with UFPTI for future research opportunities		
10. Activities undertaken		

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Welcomed by the training programmed coordinator and Dr. Roi Dagan, followed by tour of the centre and introductions to staff members and faculty.
Observed paediatric patient treatment from start to finish including recovery phase. Discussed with anaesthetic team and radiographers on how they schedule treatment to maximise efficiency.

Attended the following meeting during the visit:
Head and Neck tumour board meeting
Skull base Tumour board meeting
Chart rounds (Attending physicians present their patients who started treatment that week with discussions around target volume, doses, uncertainties)
Breast Tumour board meeting
Teaching session for residents
Clinical effectiveness meeting : Brain stem necrosis in paediatric patients treated with PBT and
Patient lunch time symposium delivered by attending physicians to patients with feedback from patients who received proton treatment and who are currently undergoing treatment.

Attended new patient consults and on treatment follow up of head and neck patients.

Discussed at length with physicians regarding OAR tolerances for proton treatment and anticipated side effects including long term toxicities.

Spent time with dosimetrists and physicists and observed sacral Chordoma planning. Discussed the planning steps and the various parameters (field size, matching, patching, gantry angle, uniform scattering, double scattering, pencil beam scanning, proximal and distal margins, plan robustness, and strategies to deal with anatomical variation during treatment leading to change in path length)

Observed treatment for age related macular degeneration using proton beam.

Spent time with various site specific planning protocols, dose constraints, and current research protocols.

Reviewed plans for patients that I sent for proton treatment through NHS overseas programme.

Discussed with attending physician specialising in breast cancer regarding the challenges and advantages of PBT in treating breast cancer.

11. Benefits of the visit (short term)

Greater understanding of the various methods of PBT delivery (Passive scatter and Pencil Beam scanning/Spot scanning) and the limitations.
The importance of patient selection.
The patient pathway and the time it takes to start treatment from planning scan.
Gained valuable experience of understanding range uncertainties and the various strategies used to minimise uncertainties.
Importance of using appropriate imaging modalities in target delineation.
Understanding of different health care system.
The use of mixed Proton/Photon treatment in head and neck cancer.

12a Envisaged benefits of the visit longer term (your own practice)

This visit to UFPTI has given me a greater understanding of the importance of adequate debulking around brainstem in skull base malignancies in order to be able to deliver higher dose. This has enabled me to highlight in the MDT, the regions that need debulking for patients to be able to benefit from PBT.

I have gained a better understanding of the technical challenges of proton beam planning, its limitation and delivery.

To be able to do planning studies comparing proton and photon treatment in head and neck cancer.

12b. Envisaged benefits to the wider group (dissemination to others in your centre/clinical oncology community/multiprofessional team)

My understanding of PBT has improved greatly and I am able to discuss with colleagues regarding patients who might benefit from proton treatment.

To disseminate the knowledge gained to trainees in clinical oncology both locally and in the region.

13. Please outline any problems you encountered before, during or after your visit

None in particular

14. Any additional comments

I would like to take this opportunity to thank RCR-Cyclotron Trust and CO-PSSB for providing us with this opportunity to enhance our knowledge on Proton Therapy.

I am very grateful to Dr Roi Dagan and his colleagues for taking time to discuss patient selection, treatment plans and protocols for various indications and Rozina Behrooz for her help in coordinating the visit and looking after us during the two week visit.

I would also like to thank Adam, Resident Fellow and all physics staff who helped us at all times during our visit.

15. Do you have any 'top tips' that you would like to share with prospective visiting fellows?

Reading about the proton planning techniques before visiting helped me immensely.

Signed: **N Palaniappan**	**Date:** 08 February 2017
Report approved by:	**Clinical Oncology Professional Support and Standards Board**
Date	11.05.17

Please return this form to Miss Ritu Verma, Professional Standards Administrator at: ritu_verma@rcr.ac.uk