

Prostate motion during prostate cancer radiation therapy treatment: does patient BMI have an influence?

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Background/Aims: To determine if the patient's body mass index (BMI) influences the prostate motion during radiation therapy. **Methods:** Image sequences (movie capture mode) were acquired during the left, anterior and right aspects of radiation therapy treatment delivery in 130 prostate cancer patients. Prostate motion was assessed by measuring the displacement of fiducial markers implanted within the prostate. The mean displacements (in left/right (LR), superior/inferior (SI), anterior/posterior (AP) translations and pitch and yaw rotations) were analysed using one-way ANOVA to determine if there was significant difference between BMI categories. **Results:** The sample was representative of population BMIs with 1 underweight, 24 normal, 56 overweight and 49 obese patients (BMI range: 18.22 to 47.00; mean: 29.4). The mean \pm standard deviations across the study population were 0.37 ± 0.83 , 0.34 ± 1.48 , -0.90 ± 1.41 mm in the LR, AP and SI translations, and -1.55 ± 5.38 and -0.28 ± 1.93 degrees in the pitch and yaw rotations. There was no statistically significant difference across BMI categories except in LR ($p=0.003$) and pitch ($p=0.007$). Tukey HSD post-hoc analysis indicated LR difference from overweight to obese (0.575, 95% CI 0.185-0.965), and the pitch difference from overweight to obese (2.921, 95% CI 0.739-5.102) was statistically significant ($p=0.002$ and 0.005 respectively). **Conclusion:** There is no significant relationship between prostate motion and BMI, except in the left/right direction and in pitch. These results support the growing body of evidence that a patient's body habitus is not the main influence on prostate motion.

Limb amputation in Indigenous Australians on renal dialysis: The Townsville Hospital experience

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Background/Aims: North Queensland has a high prevalence of diabetes, vascular disease and end stage renal failure (ESRF) requiring renal dialysis, particularly amongst Indigenous Australians. Recent reports have identified dialysis as a risk factor for lower limb amputations; however, no studies have been conducted to explore the differences between Indigenous Australians and the general population. The aim of this study was to document differences between Indigenous Australians and the general population for risk factor of non-traumatic limb amputation in North Queensland. **Methods:** All patients currently attending the Townsville dialysis centre were included in the study. Odds ratio and χ^2 tests were performed to identify variables most strongly associated with amputation. **Results:** A total of 219 patients (114 Indigenous Australians) attended the service. We identified an overall prevalence of limb amputation of 13.7% in patients on renal dialysis (19.3% amongst Indigenous Australians). Indigenous Australians were found to have a higher susceptibility to amputations (RR1.58 [1.27-1.98] $p=0.005$). The major risk factors of amputations in the overall cohort were history of ulceration (OR 81 [18-360.44] $p<0.001$) and presence of diabetes (OR 41 [2.5-682.6] $p=0.009$). **Conclusion:** Indigenous Australians with ESRF on dialysis who have a past history of ulceration and have diabetes mellitus are at higher risk of having amputations compared with non-Indigenous Australians. Primary prevention of diabetes in the sub-population may help in reducing the limb loss. Further prospective studies on a larger population are needed to confirm our findings.

Hypothyroidism in pregnancy: fetal-maternal complications at The Townsville Hospital

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Background/Aims: Untreated hypothyroidism in pregnancy is associated with increased risk of fetal-maternal complications including premature birth, low birth weight, gestational hypertension and miscarriage. However, there is insufficient data on pregnancy outcome in adequately treated hypothyroidism in pregnancy. The aim of the study was to assess fetal-maternal complications in hypothyroid pregnant women at the Townsville Hospital. **Methods:** We collected data by a retrospective chart audit of all the hypothyroid patients who attended the high-risk pregnancy clinic at the Townsville Hospital from 1st January to 31st December 2013. Only patients who were adequately treated with thyroxine and maintained TSH target of <2.5 mIU/L with regular follow up in the clinic were included in the study. **Results:** A total of 73 hypothyroid patients were reviewed. Fifty-two patients were previously diagnosed while 21 were diagnosed with hypothyroidism during the pregnancy period. Mean age in both groups was similar. Interestingly, higher fetal-maternal complications were observed in the newly diagnosed hypothyroid patients compared with previously diagnosed hypothyroid patients: 25 out of 52 (48%) and 14 out of 21 (66.7%) respectively ($X^2 = 7.13$; $p = 0.008$). These complications occurred in spite of the adequate thyroxine replacement. **Conclusion:** We report higher adverse pregnancy outcome in adequately treated newly diagnosed hypothyroid mothers. Our finding suggests early pre-pregnancy screening for hypothyroidism may lead to a reduction in fetal-maternal complications in high risk subjects. Further prospective studies on a larger population are needed to verify our findings.

Patients prefer being in a single room even if they do not know they have an infection

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Background/Aims: The literature reveals negative psychological impacts on patients who are isolated in single rooms because of infections. It was proposed that a lack of infection control education was a potential contributor to decreased satisfaction and increased anxiety amongst such patients. The aim of this study was to identify whether providing information brochures to infectious patients that are isolated in single rooms improves the patient experience. **Methods:** A convenience sample of 34 medical/surgical patients who were isolated in single rooms during the month of February 2013 was interviewed by infection control nurses. Between March and June 2013, ward nursing staff were asked to provide an information brochure for patients isolated in single rooms because of infections. From July 2013, 24 patients in single rooms were interviewed in a similar way as previously. **Results:** Pre-intervention, the majority of patients ($n=23$) knew they were in a single room due to infections, preferred being in a single room ($n=25$), and understood why staff wore personal protective clothing prior to entering their room ($n=32$). Post-intervention, fewer patients knew why they were being isolated, yet the majority ($n=15$) preferred the quietness of a single room. Only two-thirds of patients ($n=16$) were given the information brochure. **Conclusion:** Education pertaining to infection control is not easily delivered by ward nurses. There is clearly an opportunity for infection control

nurses to be directly involved in educating patients about transmission-based precautions. Consequently, the patient information brochures have been amended and the infection control nurses deliver and discuss these with the patients on their daily ward rounds.

Development and review of an interprofessional clinical placement evaluation tool

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Background/Aims: Evaluation of undergraduate student clinical placements is important as the results inform practice and improve the quality of future placement experiences. Community Rehab nQ (CRnQ) offers interprofessional clinical placements to students from several health and social care disciplines. An apparent lack of validated interprofessional placement evaluation tools led to the development of an in-house questionnaire. The aim of this project was to evaluate the results of the piloted evaluation tool and plan the next phase of its development. **Methods:** The Interprofessional Clinical Placement Evaluation Tool assessed student satisfaction with pre-placement preparation, placement experience, clinical supervisors and interprofessional experience. A combination of quantitative and qualitative data was collected. **Results:** Overall, 26 students completed the evaluation tool and the results suggest high levels of satisfaction with the clinical placement experience and the clinical supervisors at CRnQ. Working in an interprofessional team was rated as a positive and beneficial aspect of the clinical placement. Completion rates of the placement evaluation tool were poor, posing a challenge to be resolved in the next phase of tool development. Professional growth and increase in clinical knowledge over the duration of placement were not measured. Several key topics were identified as needing more in-depth evaluation based on the results obtained and these will be heavily considered in future tool development. **Conclusion:** The results of this project will contribute to the further development and refinement of the Interprofessional Clinical Placement Evaluation Tool. This tool, when validated, may be utilised by other clinical placement sites offering an interprofessional learning experience.

POSTER ABSTRACTS

Adherence to haemodialysis regimens: how big is the problem and what can we do to make it easier?

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Background/Aims: Patients who require haemodialysis for end-stage renal disease are advised to make substantial lifestyle modifications. These include attending the renal unit for dialysis, usually three times per week, and minimising weight gain associated with fluid allowances between dialysis sessions. The aim of this study is to measure adherence to haemodialysis regimens as measured by attendance at scheduled sessions and average weight gain between dialysis sessions. **Methods:** Retrospective chart audit of a cohort of patients (n=72) attending an in-centre North Queensland renal unit having dialysis via an arteriovenous fistula, graft or central venous

catheter over a 12-week period in 2013. **Results:** Ninety per cent (90%) of the 2405 scheduled sessions were attended: 41 (56.9%) patients attended all their scheduled sessions. The median number of missed sessions was 6.5. Non-Aboriginal and/or non-Torres Strait Islander people, those who did not have to relocate to the regional city, older people and those on a twice-weekly schedule were more likely to attend. The mean daily weight gain was 0.885 kg. The largest mean daily weight gain, over the period, was 1.017 kg/day. Patients 60 years or older were more likely to comply with fluid restrictions. **Conclusion:** Non-attendance at this unit is much higher than noted in the international literature. If a patient is not attending all scheduled dialysis sessions, their poor health status may deteriorate further. The renal service is considering additional strategies that will assist patients to adhere to their regimens. In doing so, they will improve outcomes for individual patients and better manage healthcare resources.

An automated assay for the measurement of CSF bilirubin

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Background/Aims: Subarachnoid haemorrhage (SAH) is a life-threatening condition, the successful management of which is dependent on accurate and rapid diagnosis. Laboratory detection of bilirubin in the cerebrospinal fluid (CSF) using a scanning spectrophotometer is the recommended method for laboratory assessment of SAH. However, this method is technologically challenging and a lack of after-hours expertise often results in the use of subjective visual inspection. We evaluate a modified Jendrassick Grof method for an automated clinical biochemistry analyser and compare the results with those from the gold standard scanning spectrophotometric method. The aim of this study is to validate a newly-developed automated assay for the analysis of CSF bilirubin in an effort to improve service delivery for clinicians diagnosing SAH in rural and remote areas.

Methods: Mock CSF samples containing increasing amounts of red cells, bilirubin and protein were evaluated for bilirubin, oxyhaemoglobin and methaemoglobin using a scanning spectrophotometer. These results were then compared with results from the same samples using an automated method for CSF bilirubin (Beckman AU480) to assess interference. **Results:** The automated (AU480) method showed a 99% correlation when compared to the gold standard method. Furthermore, the new method demonstrated a reduced susceptibility to common pre-analytical interferents. **Conclusion:** Automating CSF bilirubin measurement will allow for SAH screening in rural and remote areas and improve after-hours service provision in more urban areas.

Autoimmune hypophysitis as a result of cancer treatment: a case series at The Townsville Hospital

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Background/Aims: Iatrogenic hypophysitis (IAH) is an immune-related adverse event observed amongst advanced-stage cancer patients on immunomodulation therapy with the anti-cytotoxic T-cell antigen 4 (anti-CTLA-4) biological agent, Ipilimumab. IAH usually presents with subtle symptoms and a pituitary mass, however due to its fatal potential, a high index of clinical suspicion is important amongst cancer patients on anti-CTLA-4 therapy. The Townsville Hospital (TTH) has recently observed