Title: Where does basic science fit into clinical practice?

Introduction: The longevity of basic science knowledge learned in medical school has been a source of concern, there is a widespread belief that a substantial portion of the basic science information learned in medical school is lost predominantly during the practice years. However, longitudinal data from research studies confirm the strong associations between levels of performance in medical school and clinical competence in residency.

Objectives: This study examined the level of retention of basic science knowledge among GPT1 registrars and undergraduate medical students at James Cook University.

Method: Participants were asked to complete a paper based basic science examination consisting of thirty (30) A-type multiple choice questions. Knowledge was tested on anatomy, biochemistry, pathology, pharmacology, physiology and social sciences (5 questions per discipline). Differences in retention of knowledge for participant groups were examined in SPSS. Pearson correlation coefficients was used to establish the strength and direction of associations and significance was tested using Bonferroni probability.

Results: A total of 563 students and 120 registrars participated in the examination. Data analysis showed that highest scores were obtained in pathology, pharmacology and social sciences. There were no significant differences between registrars and med 6 students in the overall scores. The registrars also performed better than the med students in anatomy and biochemistry. They also had significantly higher overall scores than the med 2 and 4 students. There was also a high correlation (0.50) between registrar scores on the basic science exam and their clinical exam.

Conclusion: The progression in basic science knowledge up the clinical hierarchy may reflect clinical experience building upon the foundations laid in medical school. However, retention tends to atrophy slightly in the early postgraduate years.

Authors - Bunmi Malau-Aduli, Peta-Ann Teague, Paula Heggarty, Carole Reeve, Nick Hummel, Marcy Holdsworth, Richard Murray.