parallel to each other in the central arm of an 'H'. This study aimed to determine the population variance in chiasmal shape.

Methods 68 MRI scans of healthy individuals without visual abnormality were randomly selected. A 2D image was created and images were analysed using AutoCAD software to determine the offset between lines drawn down the centres of the optic nerves and contralateral optic tracts. A positive offset would suggest an 'H' shape while an 'X'-shaped chiasm would have a offset of 0.

Results The mean width of the chiasm was 12.0 mm, and the mean offset was 4.7 mm generating a mean offset:width ratio of 0.38. No chiasm had an offset of zero. Fibre crossings occurred approximately 2.35 mm lateral to the midline, and nasal (crossing) fibres travelled an average of 4.7 mm in the mediolateral plane before entering the contralateral optic tract.

Conclusions The human optic chiasm is H-shaped, not X-shaped. This information will inform future models of chiasmal compression.

027 WILL REFRACTORY PATIENTS RESPOND TO ERENUMAB IN THE REAL WORLD?

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Introduction Erenumab has been studied in Randomised Controlled Trials (RCT), with stricter exclusion criteria than real world populations.

Methods 65 patients from two Australian headache centres on Erenumab had primary outcomes of $\geq 50\%$ response in monthly migraine days (MMD) and monthly headache days (MHD), compared to their demographics, frequency, duration of Chronic Migraine (CM), failed prophylactic medications, severity scores and medication overuse headache (MOH).

Results 35% (23/65) had daily headaches, with $\geq 50\%$ MHD and MMD reduction in this subgroup of 17% (4/23) and 65% (13/20), respectively. Duration of CM was >10 years in 48% (29/61), with $\geq 50\%$ MHD and MMD reduction in 28% (8/29) and 48% (13/27), respectively. 100% (64/64) had failed > 3 prophylactic medications with $\geq 50\%$ MHD and MMD reduction in 30% (19/64) and 47% (27/58), respectively, with reducing rates of $\geq 50\%$ MMD reduction if >5 (29%; 17/58) and >10 (22%; 2/9). 95% had high severity scores (HIT-6 score >60), with a $\geq 50\%$ MMD reduction in 43% (23/54). MOH occurred in 41% (24/58) for triptan and 29% (17/58) for codeine medications, with a $\geq 50\%$ MMD reduction in 71% (17/24) and 41% (7/17), respectively (all groups $p>0.05$).

Conclusion This real world cohort treated with Erenumab included patients that would be excluded from RCT analysis- including more chronic, frequent, severe and refractory migraine. Despite this, there were still $\geq 50\%$ responders in more severe subgroups, particularly daily headache, high

severity scores and triptan MOH. Measuring MMD may be more sensitive for assessing improvement than MHD.

Poster abstract

028 DELAYED CT IMAGING LEADING TO DELAYS IN ACUTE STROKE MANAGEMENT IN REGIONAL AUSTRALIA

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Introduction Urgent CT imaging is crucial for acute stroke management to allow for timely thrombolysis and early referral to a peripheral endovascular thrombectomy (ECR) service. Delays in CT imaging are suspected to correlate with lengthening door-to-needle time (DNT) and arrival-to-referral time (ART) in regional Australia.

Methods and results We retrospectively analysed 656 acute stroke admissions between 2016 and 2018 to determine mean DNT and ART in addition to influencing factors such as age, gender, onset to arrival time & baseline National Institute of Health Stroke Scale (NIHSS) score. Over 3 years, 70 patients underwent thrombolysis and 56 ECR. The mean DNT was 108 minutes with mean arrival to CT time of 30 minutes. Multiple linear regression displayed a positive correlation between arrival to CT time and DNT ($p<0.01$). For every 10-minute delay in CT imaging, there was a 6-minute delay in DNT (95% CI 2 – 11 minutes). The mean ART was 150 minutes. A positive correlation was again seen between ART and arrival to CT Time ($p=0.02$). For every 10-minute delay in CT imaging, there was a 9-minute delay in ART (95% CI 1 – 16 minutes).

Conclusions It is known that early initiation of both thrombolysis and ECR are associated with positive patient outcomes. There is a need to reduce time taken to complete CT imaging in regional Australia, as it is clearly shown to be associated with lengthened time for treatment initiation and timely referral. Reduction in this arrival to CT time will likely improve patient outcomes.

029 TIME EQUALS BRAIN – RETROSPECTIVE ANALYSIS OF THROMBOLYSIS IN REGIONAL AUSTRALIA TO DETERMINE FACTORS WHICH INFLUENCE DOOR TO NEEDLE TIME

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Introduction Minimising delay in thrombolysis is a key outcome in acute stroke care.

Methods A 3 year retrospective cohort analysis of all acute stroke admissions in Wollongong Hospital, a major regional referral centre in New South Wales, was completed to determine the causes of in-hospital delays for

thrombolysis. Data collected included age, baseline National Institute of Health Stroke Scale (NIHSS) score, onset time, arrival time, CT imaging & reporting time and outcomes of the event.

Results From 656 admissions, 70 cases of thrombolysis were recorded 56 cases of endovascular thrombectomy. The mean time from onset to arrival was 85 minutes, from arrival to CT was 31 minutes and from door to needle time (DNT) was 108 minutes. Multiple regression analysis revealed an inverse linear association between onset to arrival time and DNT. Age, stroke severity and gender were not shown to impact treatment times. The results showed that there was a paradoxical association between arrival time and DNT. The cause for this was not clearly identified but similar to previous studies is likely to be contributed by a lack of urgency when initiating management.^{1 2}

Conclusion For every 30-minute delay in hospital arrival, there was a 13-minute reduction in DNT. In light of this, education trials to promote 'time equals brain' understanding amongst stroke first responders is being implemented to aim to reduce DNT to less than 80 minutes. The results of this are anticipated to be available in mid 2019.

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030

MANAGEMENT AND ATTITUDES TOWARDS PERSONS WITH EPILEPSY IN GENERAL PRACTICE: HOW FAR HAVE WE COME?

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Introduction Previous surveys of general practitioners (GP) attitudes regarding epilepsy and people with epilepsy (PWE), conducted 20–30 years ago^{1 2}, identified the need for further education in epilepsy care for GPs. This follow up study of GPs in Sydney, Australia, was conducted to determine the degree of changes in knowledge, attitudes and management of PWE, to evaluate if there had been significant improvement during this period.

Methods A piloted questionnaire addressing epilepsy investigations, preferred care provider and attitudes towards epilepsy was developed and completed by a representative sample of Sydney GPs.

Results A total of 52 completed responses were received. 36 out of 47 GPs (77%) chose neurologists as the most important care giver, followed by the GP (9/47; 18.7%), 25/51 respondents (49%) mentioned they never personally initiated anti-epileptic medication (AEM) and another 27% (14/51 GPs) rarely commenced AEM therapy. 6/50 GPs did not mention EEG as a routine investigation and 21/50 did not

mention MRI as routine for PWE. The five most commonly prescribed AEMs, according to frequency were sodium valproate (42), carbamazepine (37), levetiracetam (31), lamotrigine (16) and phenytoin (15). Newer AEMs, available for over a decade in Australia were not mentioned. Emotional, behavioral psychosocial issues were perceived to be more common amongst PWE.

Conclusion The study indicates little perceptual shift regarding GP's attitudes to epilepsy, and significant deficiencies in knowledge, particularly with regards to investigations and management. The findings reinforce a need for more formal training of GPs caring for PWE.

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CLUSTER OF CREUZFELDT-JAKOB DISEASE IN THE SOUTH WESTERN SYDNEY LOCAL HEALTH DISTRICT POPULATION IN THE PAST 5 YEARS

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Introduction Noting a perceived increased case-load of Creutzfeldt-Jakob disease (CJD) patients at Liverpool Hospital, in the South-Western Sydney Local Health District (SWSLHD), the authors questioned the accepted death from CJD incidence of 1 per million.

Methods We reviewed the District Health-Information-Exchange (HIE) database for all admissions with CJD diagnoses in SWSLHD hospitals, over a 5-year period 2014–2018. The SWSLHD services a population of 1,001,437. The HIE identified cases were reviewed according to World Health Organization (WHO) diagnostic criteria as used by the Australian national CJD registry. Definite and probable CJD cases were included in the study. Incidence per year was calculated from the final case number across the 5-year SWSLHD population.

Results 26 patients coded with a diagnosis of CJD were identified from HIE database over the period. These cases were critically reviewed and 20 confirmed as definite (n=4) or probable CJD (n=16) cases. The diagnoses of excluded patients (n=6) were herpes simplex encephalitis, paraneoplastic encephalitis, delirium, and 2 with progressive multifocal leukoencephalopathy. Calculated incidence based on 5-year SWSLHD population was 4.16 cases per 1 million population/year.

Conclusions In the 5-year period, we note an incidence of definite and probable CJD cases in the SWSLHD population, four times the national and worldwide reported rates. Cases from the last 2-months of 2018 are pending at the time of submission, which may alter these observations. These findings