vague descriptions like “improved”, “worsened”, and “unchanged” to describe outcomes following resections of tumours affecting the optic apparatus, which are difficult to quantify in a clinical setting. *Methods:* We present a novel way to describe a patient’s visual function as a combination of visual acuity and visual field assessment that is simple to use and can be used by surgeons, and researchers to gauge visual outcomes following tumour resection. *Results:* With our scale we were able to capture the overall visual change while being sensitive enough to define the overall quantity of improvement or worsening quantitatively, using categories that are clinically relevant and understandable. *Conclusions:* The implementation of pre- and post- operative assessment provides clinically relevant information for surgeons and is robust for routine use.

Visual Fields	Visual Acuity		
	20/20 – 20/50	20/50 – 20/200	< 20/200
> 120° along horizontal axis and > 15° above and below level of fixation	A	B	C
< 120° along horizontal axis or < 15° above and below level of fixation > 20°	B	B	C
< 20°	C	C	C

P.021

Surgical management of incidentally discovered diffusely infiltrating glioma

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Background: Occasionally low grade gliomas (LGGs) are identified incidentally while asymptomatic. The diagnosis of incidental LGGs has become more frequent due to increase in access to medical imaging. While management of these lesions remains controversial, early surgery has been suggested to improve outcome. *Methods:* All LGGs treated between 2004 and 2016 at our institution were reviewed. Patients with incidentally discovered glioma were identified and retrospectively reviewed. “Incidental” was defined as an abnormality on imaging that was obtained for a reason not attributable to the glioma. Outcomes were measured by overall survival, progression free survival and malignant progression free survival. *Results:* Thirty-four out of 501 adult patients who were treated for low grade glioma were discovered incidentally. Headache (26%, n=9) and screening (21%, n=7) were the most common indications for brain imaging. The mean duration follow up was 5 years. Twelve patients had disease progression, 5 cases of malignant progression and 4 deaths. Oligodendroglioma was diagnosed in 16 and astrocytoma in 15 patients. Twenty-five (74%) patients had IDH1 mutation and demonstrated prolonged survival. *Conclusions:* This retrospective cohort of incidentally discovered LGGs were surgically removed with minimal surgical risk. There is improved overall survival likely attributable to the underlying favorable biology of the disease indicated by the presence of IDH1 mutation.

P.024

An atypical presentation of neurocysticercosis: a Manitoban case

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Background: Neurocysticercosis is the world’s leading cause of epilepsy and the most common helminthic disease affecting the human nervous system. It is relatively rarely seen in developed nations, and usually presents clinically with seizures. *Methods:* This case report was prepared using the patient’s hospital chart, and a review of the literature was undertaken using PubMed. This case was subsequently compared and contrasted to the known neurocysticercosis literature. *Results:* This is the case of an otherwise healthy 38 year old Nepalese female who presented with a history of headaches. Nonspecific in nature, they had worsened in the past couple of weeks, thus prompting appropriate imaging of the head. A large 4 cm ring enhancing lesion with edema and mass effect was discovered in the right anterior temporal lobe. No other neurological findings were found on exam. Pathological analysis confirmed a larval scolex of T. solium. *Conclusions:* Aside from being an unusual pathology to be seen in Manitoba, this case is unique in both its clinical and radiographic presentations. There were no seizures noted on presentation, and a significant amount of mass effect was seen around a large lesion, all unusual features for neurocysticercosis.

General Pediatric Neurology

P.025

Magnetic resonance imaging in pediatric recurrent ophthalmoplegic cranial neuropathy

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Background: Recurrent ophthalmoplegic cranial neuropathy (ROCN), previously called ophthalmoplegic migraine, is characterized by recurrent episodes of headache and ophthalmoplegia of unclear etiology. Characteristic neuroimaging findings can support the diagnosis. *Methods:* A case report and review of the literature. *Results:* We present a 6-year-old girl with a past history of migraine headaches associated with retroorbital pain since 4 years of age. Family history is positive for migraine. She presented with a half a day history of left eye ptosis, 10 days post a resolved gastroenteritis which was associated with headaches. Examination showed only a left eye ptosis, pupil-sparing with no exotropia or diplopia. There was no headache. The rest of the neurologic examination was normal. Investigations showed normal blood tests and lumbar puncture. MRI head showed on thin cuts asymmetric nodular thickening (4mm) of the origin of the cisternal segment of the left oculomotor nerve, with corresponding homogeneous enhancement post gadolinium infusion. Clinical resolution occurred spontaneously within 48 hours. A review of the literature highlights focal thickening and enhancement of the affected cranial nerve, with resolution of enhancement post-acute

phase. *Conclusions:* Focal thickening and enhancement of affected cranial nerve is seen in the majority of pediatric ROCN. These findings are best seen with thin MRI cuts and gadolinium infusion.

P.026

Acute lower limb spasticity: Stiff person syndrome responsive to immunomodulatory therapy in an adolescent female

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Background: Stiff person syndrome (SPS) is a rare disorder presenting with progressive stiffness and spasms of the musculature of the trunk and limbs. SPS is reported very rarely in children and adolescents, with 5 cases over 25 years in a recent 99 patient cohort. *Methods:* Case Study *Results:* Herein we report a 15 year old female, presenting with acute onset of rapidly progressive spasticity of the lower extremities. Initial exam was remarkable for markedly limited left knee range of motion, in addition to asymmetrical knee spastic catch and hyper-reflexia. EMG revealed almost continuous motor unit activity which dissipated with voluntary muscle contraction. Diagnosis was confirmed by high titres of glutamate decarboxylase (GAD65) antibodies >25,000 units/ml. The patient was initially treated with IVIG, baclofen, and diazepam followed by IV methylprednisolone, with mild subjective improvements. One day following the first rituximab treatment, she achieved spontaneous knee flexion and regained the ability to ambulate independently. There is a residual spastic catch at the knees. *Conclusions:* This case highlights that SPS, albeit extremely rare, should be considered in the differential diagnosis of acquired spasticity in children. Also noteworthy is the relatively rapid resumption of function with aggressive immunomodulatory treatments in this historically devastating disorder.

Pediatric Neurosurgery

P.027

Comparative effectiveness of flexible vs. rigid neuroendoscopy for ETV/CPC: a propensity score matched cohort and survival analysis

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Background: ETV/CPC has become an increasingly common technique for the treatment of infant hydrocephalus. Both flexible and rigid neuroendoscopy can be used, with little empirical evidence directly comparing the two. We, therefore, used a propensity-matched cohort and survival analysis to assess the comparative efficacy of flexible and rigid neuroendoscopy. *Methods:* Individual data were collected through retrospective review of infants < 2 years of age, treated at one of 2 hospitals: 1) Boston Children's Hospital, exclusively utilizing flexible neuroendoscopy, and 2) Nicklaus Children's Hospital, exclusively utilizing rigid neuroendoscopy. Patient characteristics and post-operative outcome were assessed. A propensity score (PS) model was developed to balance patient characteristics in the case mix. *Results:* A PS model was developed with 5 independent variables: chronological age, sex, hydrocephalus etiology, prior CSF diversion, and prepontine scarring. PS analysis revealed that compared to flexible neuroendoscopy, rigid neuroendoscopy had an ETV/CPC failure OR of 1.43 and 1.31 respectively, compared to unadjusted OR of 2.40. Furthermore, in a Cox regression analysis controlled by propensity score, rigid neuroendoscopy had a HR of 1.10, compared to unadjusted HR of 1.61. *Conclusions:* Much of the difference in ETV/CPC outcome between endoscopy types is attributed to the case mix. An observational study or randomized controlled trial is required to provide evidence-based guidelines.

P.028

Global surgery for pediatric hydrocephalus in the developing world: a review of the history, challenges, and future directions

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Background: Pediatric hydrocephalus is one of the most common neurosurgical conditions and is a major contributor to the global burden of surgically treatable diseases. *Methods:* The authors conducted a literature review around the topic of pediatric hydrocephalus in the context of global surgery, the unique challenges to creating access to care in low-income countries, and current international efforts to address the problem. *Results:* Developing countries face the greatest burden of pediatric hydrocephalus due to high birth rates and greater risk of neonatal infections. This burden is related to more general global health challenges, including malnutrition, infectious diseases, maternal and perinatal risk factors, and education gaps. Unique challenges pertaining to the treatment of hydrocephalus in the developing world include a preponderance of postinfectious hydrocephalus, limited resources, and restricted access to neurosurgical care. In the 21st century, several organizations have established programs that provide hydrocephalus treatment and neurosurgical training in Africa, Central and South America, Haiti, and Southeast Asia. These international efforts have employed various models to achieve the goals of providing safe, sustainable, and cost-effective treatment. *Conclusions:* Broader commitment from the pediatric neurosurgery community, increased funding, public education, surgeon training, and ongoing surgical innovation will be needed to meaningfully address the global burden of untreated hydrocephalus.