Anticipated Impact of ACPs in Paediatric Ophthalmology

Overview

The role of the advanced clinical practitioner (ACP) is rapidly developing across many medical specialties and within eye care, with ACP roles developing across a range of primary and secondary care settings. This document is intended to illustrate the advantages and expected impact of the ACP in paediatric ophthalmology.

The intention for ACPs is for workforce transformation, decreasing traditional boundaries between professional roles and ultimately improving paediatric access to qualified professionals who can intervene, act with critical judgement and work for improved vision, quality of life and holistic change for paediatric patients.

The paediatric curriculum for this programme was developed after some initial scoping research evaluated clinical areas which paediatric ophthalmologists reported would benefit from ACP workforce and which hospital Optometrists, Orthoptists and Ophthalmic nurses reported as feasible to upskill for. Based on the overlap of fields identified between eye-care practitioners and paediatric ophthalmologists, the frequency of presentation of the patient or field of diagnosis, and the volume of patients seen in ophthalmology, the syllabus in paediatric ophthalmology was created.

Blepharitis & Blepharokeratoconjunctivitis (BKC)

Blepharitis is widely recognised as one of the most commonly encountered paediatric ocular conditions, with presentation rates continuing to increase (Putman, 2016). Many paediatric patients with blepharitis and BKC can be diagnosed and managed by ACPs who can advise on modification of meibomian gland disease, lid hygiene techniques to reduce bacterial flora at the lid margin and conjunctiva and control the ocular surface inflammation. Lid hygiene, dietary change advice, as well as ocular lubricants, are all areas of management that an ACP can comfortably undertake, liaising with the ophthalmologist to provide further topical treatments and systemic medicine when necessary.

Allergic conjunctivitis & Vernal Keratoconjunctivitis (VKC)

Increasing numbers of patients are presenting to paediatric ophthalmology clinics with allergic conjunctivitis (Nucci et al, 2017). ACPs can diagnose and treat many of these patients, providing guidance and advice on conservative options such as sunglasses, cold compresses and supplying ocular lubricants. They can advise and supply anti-histamines and liaise with the ophthalmologist over dual acting drugs, corticosteroids and immunomodulators. These patients can take up long term ophthalmology clinic time due to long duration and seasonal variations and ACPs can reduce ophthalmologist input, by modifying treatment and providing advice to reflect these variations.

Cerebral Visual Impairment (CVI)

CVI is the commonest cause of visual impairment in children in the developed world (Gorrie et al, 2019). ACPs will have a grounded understanding of the varied presentation of this condition and will be able to clearly communicate with patients and their parents and carers, what the condition means, how it affects the child, what to expect in the years to come, and what they can do to help. Patients with CVI and their families clearly benefit from increased support, especially around the

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time of diagnosis and at transition points in school and the ACP can facilitate this. They can provide advice to improve patient and carer understanding around the diagnosis, strategies to support development & learning, low vision aids and the more holistic care of signposting to or liaising with other professionals (e.g. QTVIs) to help children with this diagnosis reach their potential.

Communicating with VI children

All children benefit from maximised opportunity to express themselves, engage and understand with their immediate environment and the people around them. Vision impairment presents challenges to communication, which are mitigated by understanding and awareness of practitioners and the provision of adjustments and interventions to promote effective connection. Thus the ACP has a powerful role in understanding the child's needs and advocating for them where necessary. These aspects of a child's care can necessitate long conversations in the ophthalmology clinic, which might not happen due to lack of clinical time, or might displace other appointments and therefore the ACP can seek to relieve this time pressure.

Integrating Healthcare and Education for VI Children

The importance of integrating healthcare and education for VI children is paramount to creating the best platform for a child to succeed. ACPs can play a pivotal role to ensure that their local department follow the special educational needs and disabilities (SEND) system protocols and understand what is required of them and the child's school. Knowledge of the integrated framework will create a far simpler approach for children and families with VI as well as relieve time burden on Ophthalmologist colleagues.

Refraction in a paediatric hospital setting

Retinoscopy assesses refractive error for children too young or unable to give the feedback necessary for subjective refraction. Typically, retinoscopy is carried out by hospital optometrists, however the high number of vacant optometry positions in UK (Wickens, 2019), mean that currently, children can be waiting dangerously long periods for these routine refraction tests. ACPs will be equipped to perform retinoscopy as well as make a decision on supplying refractive correction, thus enabling timely access to this important examination and supply of glasses.

Contact Lens Care

Contact lenses are used in the treatment of children with a wide range of ophthalmic conditions. ACPs can take the lead in the assessment and management of those needing contact lenses. ACPs will be able to spend time teaching parents, carers and children how to remove and insert contact lenses safely, as well be able to recognise any signs of post-operative and long-term complications that may arise at any point during their care and understand when to escalate them. As well as being an expert clinically, ACPs will also understand the emotional impact this has on families and be able to support them adapt to the changes that may occur.

Paediatric Visual Electrophysiology

Visual electrophysiology testing provides imperative clinical information in paediatric ophthalmology, but is not available within every clinic and therefore ACPs can increase access to this important resource. ACPs will have the knowledge and understanding to recommend paediatric patient presentations that would benefit from visual electrophysiology and the clinical information

this would yield. They will also be equipped to understand and interpret the collective results of electroretinogram (ERG) and visual evoked potential (VEP), for a range of common childhood visual impairments.

Inherited Retinal Disease (IRD)

Inherited diseases account for 25-67% of cases of severe paediatric visual impairment across the world (Gilbert and Foster, 2001). Patients and carers are frequently faced with barriers to accessing proficient services or support due to limited clinician understanding of genomics (Galvin et al, 2020; Cragun et al, 2005). As genomics is a rapidly expanding area of medicine, this need will increase. Many paediatric patients with IRD can be assessed and managed by ACPs who will understand and document family pedigrees, modes of inheritance and interpret genetics result reports, taking time to explain these to patients. ACPs will likely work closely with geneticists, ophthalmologists and other healthcare professionals within a multidisciplinary team (MDT) to successfully manage these patients and improve patient flow. The introduction of an ACP will systematically improve patient care, provide the additional time needed for IRD explanations to families and liaison with other healthcare professionals.

Retinal Imaging

A significant proportion of children presenting to paediatric ophthalmology clinics with poor vision, strabismus or infantile nystagmus, will have underlying retinal pathology and retinal imaging is crucial in identifying these structural abnormalities to diagnose and manage these patients. Over the last two decades retinal imaging has evolved significantly, with novel technologies implemented to increase paediatric access. ACPs will be equipped to organise and facilitate appropriate retinal imaging. ACPs will be able to differentiate normal and abnormal retinal images as well as contribute to virtual clinics, thus reducing workload for ophthalmologists. ACPs will independently aim to create a pathway for those with abnormal retinal morphology and manage some of these patients independently. Paediatric retinal imaging is an area that continues to increase in demand and ACPs can help to meet these demand needs, easing clinical burden on colleagues and shortening waiting times for patients.

Optic Disc Screening

Many ophthalmology departments have been flooded by requests for optic disc screening, since the 2016 conviction of Optometrist Honey Rose (Poostchi et al, 2017). Honey Rose was initially convicted of gross negligence (later cleared on appeal) for failing to detect 8-year-old Vincent Barker's papilloedema who subsequently died from hydrocephalus (White, 2016). Since this time, ophthalmologists have struggled to keep up with the increased referral rates from optometrists unable to completely screen paediatric optic discs. This case shows the importance of clear and accurate imaging of the optic disc and interpretation of the results. Recently the introduction of high resolution optic nerve imaging as well as optical coherence tomography (OCT) has improved the paediatric clinical picture. ACPs will be equipped to interpret optic nerve images to determine scans which are abnormal and require ophthalmologist input, as well as be contribute to virtual clinics, thus reducing the ophthalmologist workload. In some departments across the UK, ACPs have already created a pathway for optic disc screening and manage some of these patients independently, thus easing patient flow and clinical burden that has arisen from the current community screening climate.

Examination Techniques

All ACPs are expected to be experts in clinically examining paediatric patients, able to detect and diagnose a wide range of eye conditions, typically working to ST standard or higher. As well as the retinal imaging and electrophysiology techniques earlier described, ACPs will be skilled in slit lamp techniques, indirect ophthalmoscopy and refraction as well as intraocular pressure assessments and visual field testing and interpretation. All of these techniques rely on excellent paediatric communication skills, which ACPs will develop and enhance during their training.

Chalazia

ACPs will have knowledge and expertise in the diagnosis and management of chalazia and can provide quality care to patients, by advising on effective conservative management and empowering patients and their families to persevere and achieve this. Patients and parents will benefit from treatment plans tailored to their individual child and ACPs can provide support and discussion around this as required.

Epiphora

In most cases epiphora can be effectively managed by conservative treatment. Many babies present to ophthalmology clinics within the first year of life, yet MacEwen and Young (1991) found that epiphora in 96% of infants (n=4792) resolved before the age of one, concluding that probing <1year, is not medically justified. This report shows the patient and ophthalmologist time that could be relieved through an effective ACP, who can work with parents and carers to devise effective concordant conservative treatment plans, to see this condition spontaneously resolve.

JIA associated Uveitis

JIA associated uveitis is a sight threatening condition, which, undetected, may cause causes silent blindness. In some settings much ophthalmologist time is taken up with JIA screening and not all settings are currently able to provide comprehensive JIA screening. ACPs will be encouraged to implement screening services where they don't exist and relieve screening burden currently foaling on ophthalmologists. As well as screening for the disease, ACPs can explain the risks and benefits of topical versus systemic medication and may choose to lead a JIA 'one stop' clinic, to improve patient attendance, reduce appointment frequency, and ultimately improve outcomes for this cohort.

Paediatric Glaucoma

Paediatric glaucoma is a rare condition in which increased intraocular pressure may lead to irreversible vision loss. Early detection is vital and ACP's can provide screening as well as diagnose and support the management of comorbidities such as ocular surface disease, amblyopia, refractive error and low vision. ACPs will be equipped with knowledge and skill to assess and manage paediatric glaucoma through a range of assessments such as visual fields and OCT. ACP's are anticipated to run their own paediatric glaucoma clinics for those patients who do not require urgent or active surgical treatment, escalating clinical cases as necessary.

Eye Casualty

With only 27 hospitals in the UK specifically dedicated to children and not all with an accident and emergency (A&E) unit, the situation for children needing urgent ophthalmological care in the UK can be dire. Children can be sat waiting for hours in a less than ideal setting, surrounded by distressing A&E presentations, with limited access or a long wait to see a specialist paediatric ophthalmologist. ACPs can have a huge impact here. Some will triage patient cases by telephone or virtual consultation and others will visit A&E to see patients directly. ACPs can provide urgent care such as flushing out the eye in the case of chemical injury, removing foreign objects and in treating conditions which may flare up suddenly such as allergic conjunctivitis and VKC. In settings such as Coventry where Orthoptists have taken on extended roles in triaging and assessing patients presenting to eye casualty, they have seen hugely reduced waiting times, much improved patient and parent/carer satisfaction levels and increased satisfaction from staff as well.

Dry Eye in Children

The increasing prevalence of dry eye in children is thought to be related to the increased digital screen time children and adolescents continue to experience and was especially noticeable during the Covid-19 pandemic (Pardham et al, 2022). These devices increase visual concentration, sustained accommodation and reduced blink rate, thus drying the ocular surface in addition to factors such as rising pollution and climate change. ACPs will provide advice and guidance on managing dry eye effectively to see the condition reversed. They can supply ocular lubricants as required to ameliorate symptoms. ACPs are anticipated to manage the majority of these patients independently and liaise with ophthalmologists where further intervention is required.

Continued Professional Development (CPD)

CPD is the cornerstone of any healthcare career as we continually strive for the best care for our patients through our own professional development. ACPs within your department will take lead by example on all matters CPD related and will continue to ensure the highest standards.

Conclusion

Some common themes emerge from the described and anticipated impacts of ACPs in paediatric ophthalmology over the broad range of ophthalmology conditions given here. Many conditions can be effectively conservatively managed through good communication and concordant treatment. Time is needed for sufficient patient explanations to be provided and for answering the questions that patients and their parents and carers will have. ACPs in paediatric ophthalmology will be skilled communicators with children and possess expertise in ophthalmological conditions frequent and pertinent to the paediatric population. As a result they can improve timely patient access to the practitioner, they can provide more extensive and comprehensive screening to at-risk cohorts, they can optimise resources for patient benefit and have the additional time to liaise with the wider team and advocate for children with low vision, to improve their quality of life. Importantly, in a climate where ophthalmologists find themselves with too many patients to be seen within their clinical week, they can free up ophthalmologist time for dealing with the more complex patient cases, ensuring that these patients receive the expertise that they need.

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