



MODULE SPECIFICATION

Academic Year (student cohort covered by specification)	2021-22
Module Code	3403
Module Title	Childhood Eye Disease and Ocular Infections
Module Organiser(s)	Aeesha Malik; Victor Hu
Faculty	Infectious & Tropical Diseases
FHEQ Level	Level 7
Credit Value	CATS: 15 ECTS: 7.5
HECoS Code	100261:100265 (1:1)
Term of Delivery	Term 2
Mode of Delivery	For 2021-22 this module is delivered online. Teaching will comprise a combination of live and interactive activities (synchronous learning) as well as recorded or self-directed study (asynchronous learning).
Mode of Study	Full-time
Language of Study	English
Pre-Requisites	None
Accreditation by Professional Statutory and Regulatory Body	None
Module Cap (Indicative number of students)	25 (numbers may be capped due to limitations in facilities or staffing)
Target Audience	This module is compulsory for MSc Public Health for Eye Care. It is suitable for Ophthalmologists; Optometrists; Eye Care Programme Managers and other senior health workers involved in delivery of eye care services.
Module Description	The module covers blinding eye conditions of children and ocular infections, highlighting the public health strategies for control.
Duration	5 weeks; 2.5 days per week
Timetabling slot	C1
Last Revised (e.g. year changes approved)	August 2021



Programme(s)	Status
This module is linked to the following programme(s)	
MSc Public Health for Eye Care	Compulsory

Module Aim and Intended Learning Outcomes

Overall aim of the module
<p>The overall module aim is to:</p> <ul style="list-style-type: none"> Equip students with knowledge and skills so that they can improve the control of blinding eye diseases in children and of ocular infections in their work setting.

Module Intended Learning Outcomes
<p>Upon successful completion of the module a student will be able to:</p> <ol style="list-style-type: none"> Describe the epidemiology of conditions that can give rise to visual loss in children, focusing on low- and middle-income countries; Describe the epidemiology of ocular infections, focusing on low- and middle-income countries; Critically evaluate preventive and therapeutic strategies for the control of childhood visual loss and blindness (including from corneal scarring, retinopathy of prematurity, cataract, refractive errors) and ocular infections (including trachoma, onchocerciasis, microbial keratitis, HIV, leprosy, and infectious uveitis); Design a program for the control of one condition by applying what they have learnt to their own work situation.

Indicative Syllabus

Session Content

The module is expected to cover the following topics:

- Blinding eye diseases in children
- The epidemiology of the following groups of conditions:
 - preventable conditions that can lead to corneal blindness e.g. vitamin A deficiency, measles infection, ophthalmia neonatorum and harmful tradition eye remedies;
 - treatable conditions that require early diagnosis and treatment e.g. cataract, retinopathy of prematurity and refractive errors;
 - management of children with low vision.
- Strategies for control of the major blinding eye diseases of children.
- How to assess needs, identify priorities for control and plan programmes.

Ocular infections:

- The epidemiology, including the control strategies, of the following conditions:
 - Trachoma;
 - Microbial keratitis;
 - Onchocerciasis;
 - Leprosy;
 - HIV/AIDS and associated infections and malignancies;
 - Infectious uveitis.
- Community orientated strategies /programmes for control (including trachoma and onchocerciasis), including assessment and planning.

Teaching and Learning

Notional Learning Hours

Type of Learning Time	Number of Hours	Expressed as Percentage (%)
Contact time	50	33.3
Directed self-study	15	10
Self-directed learning	35	23
Assessment, review and revision	50	33.3
Total	150	100

Student contact time refers to the tutor-mediated time allocated to teaching, provision of guidance and feedback to students. This time includes activities that take place in face-to-face contexts such as lectures, seminars, demonstrations, tutorials, practical classes, project supervision

Module Specification 2021-22 – 3403



as well as where tutors are available for one-to-one discussions and interaction by email. Student contact time also includes tutor-mediated activities that take place in online environments, which may be synchronous (using real-time digital tools such as Zoom or Blackboard Collaborate Ultra) or asynchronous (using digital tools such as tutor-moderated discussion forums or blogs often delivered through the School's virtual learning environment, Moodle).

The division of notional learning hours listed above is indicative and is designed to inform students as to the relative split between interactive (online or on-campus) and self-directed study.

Teaching and Learning Strategy

The teaching and learning strategy for eye conditions in children (first part of the module) and ocular infections (second part of the module) is based on a combination of interactive lectures, individual or group work with presentations and discussion, quizzes and short answer questions. Sessions will entail critically reviewing relevant publications and summarising the findings for discussion, for example, and identifying strategies for control of the major blinding eye diseases and the level in the health system at which they can be implemented. Sessions will also cover the planning steps required to bring the strategies together into a programme for control. During the module students will select one blinding eye disease of children or an ocular infection, for their assessment.

Assessment

Assessment Strategy

The assessment for this module has been designed to measure student learning against the module intended learning outcomes (ILOs) as listed above. Formative assessment methods may be used to measure students' progress. The grade for summative assessment(s) only will go towards the overall award GPA.

The assessment for this module will be online.

1. Coursework – Essay (60% weighting) students will select one cause of childhood visual loss OR one ocular infection covered in the module relevant to their own situation, and write an essay on how to implement control strategies. Students can use tables, flow charts, bullet point lists, etc. Max 2000 words excluding references. Max 25 references.

For this selected condition:

- Students have to describe the epidemiology of the condition in a community of their choice, focussing on the prevalence and risk factors, and likely magnitude. If there are no data for their country, students should select the data that they think to be the most relevant.
- Students have to describe possible strategies for control (i.e. for primary, secondary and tertiary prevention), outlining:



Assessment Strategy

- a. which are feasible in that setting, and
 - b. explaining why
 - Students have to describe how the interventions that are feasible in their setting could be integrated into the existing health system and services. Students have to think through what could be implemented:
 - a. within the community
 - b. at primary level
 - c. at secondary level
 - d. at tertiary level of service delivery
 - Highlight what some of the challenges might be
2. Short answer questions (timed test)- (40%).

Summative Assessment

Assessment Type	Assessment Length (i.e. Word Count, Length of presentation in minutes)	Weighting (%)	Intended Module Learning Outcomes Tested
Coursework	Word count: 2,000 maximum excluding references References: maximum of 25	60	4
Timed Test (in-module test e.g. MCQ)	3 hrs	40	1, 2, 3

Resitting assessment

Resits will accord with the LSHTM's [Resits Policy](#)

The Resit assessment will be the same assessment type as the first attempt (see previous table). The resit assessment will be an essay as outlined above but which addresses a different eye condition.

Resources (overleaf)



Indicative reading list

The vision impaired child

Essential/core

Dale N, Salt A. Early support developmental journal for children with visual impairment: the case for a new developmental framework for early intervention. *Child: Care, Health and Development*. 2007;33(6):684-690. doi:10.1111/j.1365-2214.2007.00798.x

Sonksen, P.M. & Dale, N. (2002) Visual impairment in infancy: impact on neurodevelopmental and neurobiological processes. *Developmental Medicine & Child Neurology*. [Online] 44 (11), 782–791. Available from: doi:10.1111/j.1469-8749.2002.tb00287.x.

Keil, S., Fielder, A. & Sargent, J. (2017) Management of children and young people with vision impairment: diagnosis, developmental challenges and outcomes. *Archives of Disease in Childhood*. [Online] 102 (6), 566–571. Available from: doi:10.1136/archdischild-2016-311775.

CVI Scotland (n.d.) Sharing and Developing our Understanding of CVI. [Online] Available from: <https://cviscotland.org/>.

Optional/additional

Dale, N., Sakkalou, E., O' Reilly, M., Springall, C., et al. (2017) Functional vision and cognition in infants with congenital disorders of the peripheral visual system. *Developmental Medicine & Child Neurology*. [Online] 59 (7), 725–731. Available from: doi:10.1111/dmcn.13429.

Dale, N.J., Sakkalou, E., O'Reilly, M.A., Springall, C., et al. (2018) Home-based early intervention in infants and young children with visual impairment using the Developmental Journal: longitudinal cohort study. *Developmental Medicine and Child Neurology*. [Online] <xocs:firstpage xmlns:xocs=/>-. Available from: doi:10.1111/dmcn.14081.

Epidemiology

Essential/core

Gilbert C, Foster A, Negrel A-D, Thylefors B. Childhood blindness: A new form for recording causes of visual loss in children. *Bulletin of the World Health Organization*. 1993;71(5):485-489. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2393473/>.

Rahi J and Gilbert C. *Epidemiology*. Taylor and Hoyt's *Pediatric Ophthalmology and Strabismus*. Elsevier 2017 5th edition; Chapter 2.



Optional/additional

Chandna, A.G. (2010) When your eye patient is a child, Community Eye Health Journal. [Online] 23 (72), 1–3–. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2873665>

Sakkalou, E. et al (2017) Parenting stress, anxiety, and depression in mothers with visually impaired infants: a cross-sectional and longitudinal cohort analysis. Developmental Medicine & Child Neurology. [Online] 60 (3), 290–298. Available from: <http://discovery.ucl.ac.uk/10063221/>.

Retinopathy of prematurity

Essential/core

Gilbert C. Retinopathy of prematurity: A global perspective of the epidemics, population of babies at risk and implications for control. Early Human Development. 2008;84(2):77-82. doi:10.1016/j.earlhumdev.2007.11.009

Hellström, A., Smith, L.E. & Dammann, O. (2013) Retinopathy of prematurity. The Lancet. [Online] 382 (9902), 1445–1457. Available from: doi:10.1016/S0140-6736(13)60178-6.

Hannah Blencowe, Joy E. Lawn, Thomas Vazquez, Alistair Fielder, et al. (2013) Preterm-associated visual impairment and estimates of retinopathy of prematurity at regional and global levels for 2010. Pediatric Research. [Online] 74 (S1), 35–49. Available from: doi:10.1038/pr.2013.205.

Vinekar A, Gilbert C, Dogra M, Kurian M, Shainesh G, Shetty B, Bauer N. The KIDROP model of combining strategies for providing retinopathy of prematurity screening in underserved areas in India using wide-field imaging, tele-medicine, non-physician graders and smart phone reporting. Indian J Ophthalmol. 2014 Jan;62(1):41-9. doi: 10.4103/0301-4738.126178. PMID: 24492500; PMCID: PMC3955069.

Gilbert C, Malik ANJ, Nahar N, Das SK, Visser L, Sitati S, Ademola-Popoola DS. Epidemiology of ROP update - Africa is the new frontier. Semin Perinatol. 2019 Oct;43(6):317-322. doi: 10.1053/j.semperi.2019.05.002. Epub 2019 May 11. PMID: 31151778.

Optional/additional

Darlow BA, Gilbert C. Retinopathy of prematurity - A world update. Semin Perinatol. 2019 Oct;43(6):315-316. doi: 10.1053/j.semperi.2019.05.001. Epub 2019 May 10. PMID: 31151777.

Anon (2017) Retinopathy of prematurity: it is time to take action. [Online] Available from: <https://www.cehjournal.org/retinopathy-of-prematurity-it-is-time-to-take-action/>.

Childhood Infections, Vitamin A deficiency and Teratogens



Essential/core

Semba RD, Bloem MW. Measles blindness. *Survey of Ophthalmology*. 2004;49(2):243-255. doi:10.1016/j.survophthal.2003.12.005

Kaushik, A., Verma, S. & Kumar, P. (2018) Congenital rubella syndrome: A brief review of public health perspectives. *Indian Journal of Public Health*. [Online] 62 (1), 52–54. Available from: doi:10.4103/ijph.IJPH_275_16

Thurnham D. Vitamin A supplementation. Beneficial effects on mortality and morbidity in children aged six months to five years, *Sight and Life*. 2011;25(3):38-49-. <https://sightandlife.org/>.

UNICEF (2018) *Coverage at a Crossroads: New directions for vitamin A supplementation programmes*. [Online] Available from: file:///C:/Users/icrucgil/AppData/Local/Temp/Vitamin-a-report-web.pdf

Kapoor VS et al (2020) *Interventions for preventing ophthalmia neonatorum*. [Online] Available from: doi:10.1002/14651858.CD001862.pub4.

Lange, S., Probst, C., Gmel, G., Rehm, J., et al. (2017) Global Prevalence of Fetal Alcohol Spectrum Disorder Among Children and Youth: A Systematic Review and Meta-analysis. *JAMA pediatrics*. [Online] 171 (10), 948–956. Available from: doi:10.1001/jamapediatrics.2017.1919.

Optional/additional

SOMMER, A. & DAVIDSON, F.R. (2002) Assessment and control of vitamin A deficiency: The annecy accords. *The Journal of nutrition*. [Online] 132 (9), 2845S–2850S. Available from: doi:10.1093/jn/132.9.2845S

Foster, A. & Sommer, A. (1987) Corneal ulceration, measles, and childhood blindness in Tanzania. *British journal of ophthalmology*. [Online] 71 (5), 331–343. Available from: doi:10.1136/bjo.71.5.331

Grant, G.B.R. (2015) Global progress toward rubella and congenital rubella syndrome control and elimination, *Morbidity and Mortality Weekly Report (MMWR)*. [Online] 64 (37), 1052–1055–. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5726242/>.

Imdad A, Mayo-Wilson E, Herzer K, Bhutta ZA. Vitamin A supplementation for preventing morbidity and mortality in children from six months to five years of age. *Cochrane Database Syst Rev*. 2017 Mar 11;3(3):CD008524. doi: 10.1002/14651858.CD008524.pub3. PMID: 28282701; PMCID: PMC6464706.



Cataract

Essential/core

R J C Bowman. How should blindness in children be managed? *Eye*. 2005;19(10):1037-1043. doi:10.1038/sj.eye.6701988

Wilson, M.E., Pandey, S.K. & Thakur, J. (2003) Paediatric cataract blindness in the developing world: surgical techniques and intraocular lenses in the new millennium. *British journal of ophthalmology*. [Online] 87 (1), 14–19. Available from: doi:10.1136/bjo.87.1.14.

Gilbert, C.E. & Lévrier-Chomette, N. (2016) Gender Inequalities in Surgery for Bilateral Cataract among Children in Low-Income Countries: A Systematic Review. *Ophthalmology (Rochester, Minn.)*. [Online] 123 (6), 1245–1251. Available from: doi:10.1016/j.ophtha.2016.01.048.

Optional/additional

Kishiki, E., van Dijk, K. & Courtright, P. (2016) Strategies to improve follow-up of children after surgery for cataract: findings from Child Eye Health Tertiary Facilities in sub-Saharan Africa and South Asia. *Eye (London)*. [Online] 30 (9), 1234–1241. Available from: doi:10.1038/eye.2016.169.

Retinoblastoma

Essential/core

Dimaras H, Kimani K, Dimba EA, Gronsdahl P, White A, Chan HS, Gallie BL. Retinoblastoma. *Lancet*. 2012 Apr 14;379(9824):1436-46. doi: 10.1016/S0140-6736(11)61137-9. Epub 2012 Mar 12. PMID: 22414599.

Global Retinoblastoma Study Group, Fabian, I., Abdallah, E., Abdullahi, S., et al. (2020a) Global Retinoblastoma Presentation and Analysis by National Income Level. [Online] Available from: <https://discovery.ucl.ac.uk/id/eprint/10093278>.

Optional/additional

Anon (2020) Manual on the management of Retinoblastoma in low and middle resource settings. [Online] Available from: <https://iceh.lshtm.ac.uk/files/2020/12/Resource-Manual-for-Rb-Management-updated-Aug-2020.pdf>.



Refractive errors and school eye health

Essential/core

Rudnicka, A.R., Kapetanakis, V.V., Wathern, A.K., Logan, N.S., et al. (2016) Global variations and time trends in the prevalence of childhood myopia, a systematic review and quantitative meta-analysis: implications for aetiology and early prevention. *British Journal of Ophthalmology*. [Online] 100 (7), 882–890. Available from: doi:10.1136/bjophthalmol-2015-307724

WHO (n.d.) The Impact of High Myopia, 2015. [Online] Available from: <https://www.who.int/blindness/causes/MyopiaReportforWeb.pdf>

Predicting Myopia Onset and progression (PreMO): an evidence-based risk indicator for eye care practitioners. https://www.ulster.ac.uk/_data/assets/pdf_file/0011/826184/PreMO-risk-indicator-for-website.pdf

Optional/additional

Standard Guidelines for Comprehensive School Eye Health Programs. [Online]. Sights Savers International, London School of Hygiene and Tropical Medicine and the Brien Holden Vision Institute. Available from: <http://iceh.lshtm.ac.uk/files/2014/07/Standard-Guidelines-for-Comprehensive-School-Eye-Health-Programs.compressed.pdf>

Francis, V.W. (2007) *The Healthy Eyes Activity Book: A Health Teaching Book for Primary Schools*. 2nd edition. [Online]. London, International Centre for Eye Health, London School of Hygiene & Tropical Medicine. Available from: <https://www.cehjournal.org/resources/healthy-eyes-activity-book-for-primary-schools/>.

O'Donoghue, L., Rudnicka, A.R., McClelland, J.F., Logan, N.S., et al. (2012) Visual acuity measures do not reliably detect childhood refractive error--an epidemiological study Julian Little (ed.). *PloS one*. [Online] 7 (3), e34441–e34441. Available from: doi:10.1371/journal.pone.0034441

Children for Health (n.d.) Eye Health poster - 10 messages. [Online]. Available from: https://www.childrenforhealth.org/wp-content/uploads/2019/10/Eye_Health_Poster-Final-Oct-19.pdf

Comprehensive eye care / integration / primary eye care

Essential/core

Mafwiri MMK. A pilot study to evaluate incorporating eye care for children into reproductive and



child health services in Dar-es-Salaam, Tanzania: a historical comparison study, *BMC Nursing*. 2014;13(1):15-. doi:10.1186/1472-6955-13-15

Malik, A.N.J., Mafwiri, M. & Gilbert, C. (2017) Integrating primary eye care into global child health policies. *Archives of Disease in Childhood*. [Online] 103 (2), 176–180. Available from: doi:10.1136/archdischild-2017-313536.

Malik, A.N.J., Mafwiri, M., Gilbert, C., Kim, M.J., et al. (2020) Integrating eye health training into the primary child healthcare programme in Tanzania: a pre-training and post-training study. *BMJ paediatrics open*. [Online] 4 (1), e000629–e000629. Available from: doi:10.1136/bmjpo-2019-000629.

Cicinelli, M.V., Marmamula, S. & Khanna, R.C. (2020) Comprehensive eye care - Issues, challenges, and way forward. *Indian journal of ophthalmology*. [Online] 68 (2), 316–323. Available from: doi:10.4103/ijo.IJO_17_19.

Optional/additional

Ministry of Health, T. (n.d.) Eye Module TRAINING ON THE TREATMENT OF SICK CHILDREN, DISTANCE LEARNING (DIMCI).

Low vision care for children

Essential/core

van Dijk KK. Low Vision Care in Africa: Practical Approaches to Clinical Services, Educational Engagement and Planning. KCCO; 2014. <https://www.bicomalawi.org/resource/>.

Microbial Keratitis: core / essential reading

Austin, A., Lietman, T. & Rose-Nussbaumer, J. (2017) Update on the Management of Infectious Keratitis. *Ophthalmology*. [Online] 124 (11), 1678–1689. Available from: doi:10.1016/j.ophtha.2017.05.012.

Ung, L., Bispo, P.J., Shanbhag, S.S., Gilmore, M.S., et al. (2019) The persistent dilemma of microbial keratitis: Global burden, diagnosis, and antimicrobial resistance. *Survey of Ophthalmology*. [Online] 64 (3), 255–271. Available from: doi:10.1016/j.survophthal.2018.12.003.

Lottie Brown, Ms.A.K.L. (2020) The global incidence and diagnosis of fungal keratitis. *The Lancet Infectious Diseases*. [Online] Available from: <https://www-sciencedirect-com.ez.lshmt.ac.uk/science/article/pii/S1473309920304485>.



Microbial Keratitis: articles to be used in lectures

Upadhyay, M.P., Karmacharya, P.C., Koirala, S., Shah, D.N., *et al.* (2001) The Bhaktapur eye study: ocular trauma and antibiotic prophylaxis for the prevention of corneal ulceration in Nepal. *British Journal of Ophthalmology*. [Online] 85 (4), 388–389. Available from: doi:10.1136/bjo.85.4.388.

Getshen, K., Srinivasan, M., Upadhyay, M.P., Priyadarsini, B., *et al.* (2006) Corneal ulceration in South East Asia. I: A model for the prevention of bacterial ulcers at the village level in rural Bhutan. *British Journal of Ophthalmology*. [Online] 90 (3), 276–278. Available from: doi:10.1136/bjo.2005.076083.

Maung, N., Thant, C.C., Srinivasan, M., Upadhyay, M.P., *et al.* (2006) Corneal ulceration in South East Asia. II: A strategy for the prevention of fungal keratitis at the village level in Burma. *British Journal of Ophthalmology*. [Online] 90 (8), 968–970. Available from: doi:10.1136/bjo.2006.094706.

Srinivasan, M., Upadhyay, M.P., Priyadarsini, B., Mahalakshmi, R., *et al.* (2006) Corneal ulceration in south-east Asia III: prevention of fungal keratitis at the village level in south India using topical antibiotics. *British Journal of Ophthalmology*. [Online] 90 (12), 1472–1475. Available from: doi:10.1136/bjo.2006.103028.

Microbial Keratitis: optional / additional reading

Prajna, N.V., Krishnan, T., Mascarenhas, J., Rajaraman, R., *et al.* (2013) The Mycotic Ulcer Treatment Trial: A Randomized Trial Comparing Natamycin vs Voriconazole. *JAMA Ophthalmology*. [Online] 131 (4), 422–429. Available from: doi:10.1001/jamaophthalmol.2013.1497.

Bagga, B., Kate, A., Joseph, J. & Dave, V.P. (2020) Herpes simplex infection of the eye: an introduction. *Community eye health*. 33 (108), 68–70.

Tuft, S. (2020) How to manage herpes zoster ophthalmicus. *Community eye health*. 33 (108), 71–72.

Hoffman, J. (2020) Adenovirus: ocular manifestations. *Community eye health*. 33 (108), 73–75.

Trachoma: core / essential reading

Taylor, H.R., Burton, M.J., Haddad, D., West, S., *et al.* (2014) Trachoma. *The Lancet*. [Online] 384 (9960), 2142–2152. Available from: doi:10.1016/S0140-6736(13)62182-0.



WHO (2020) WHO Alliance for the Global Elimination of Trachoma by 2020: progress report, 2019. *WHO Weekly Epidemiological Record*. [Online] 30 (95), 349–360. Available from: <https://apps.who.int/iris/bitstream/handle/10665/333443/WER9530-eng-fre.pdf?ua=1>.

Trachoma: recommended reading / articles to be used in lectures

Habtamu, E., Wondie, T., Aweke, S., Tadesse, Z., *et al.* (2016) Posterior lamellar versus bilamellar tarsal rotation surgery for trichomatous trichiasis in Ethiopia: a randomised controlled trial. *The Lancet Global Health*. [Online] 4 (3), e175–e184. Available from: doi:10.1016/S2214-109X(15)00299-5.

Rajak, S.N., Habtamu, E., Weiss, H.A., Kello, A.B., *et al.* (2011) Surgery Versus Epilation for the Treatment of Minor Trichiasis in Ethiopia: A Randomised Controlled Noninferiority Trial (Trial of Epilation for Trichomatous Trichiasis) Susan (Academic Editor) Lewallen (ed.). *PLoS Medicine*. [Online] 8 (12), e1001136. Available from: doi:10.1371/journal.pmed.1001136. [Go to item](#)

Trachoma: optional / additional reading

Matthew Burton, E.H. (2015) Interventions for trachoma trichiasis. *The Cochrane Database of Systematic Reviews*. [Online] 2015 (11). Available from: doi:10.1002/14651858.CD004008.pub3.

Schachter, J., West, S.K., Mabey, D., Dawson, C.R., *et al.* (1999) Azithromycin in control of trachoma. *The Lancet*. [Online] 354 (9179), 630–635. Available from: doi:10.1016/S0140-6736(98)12387-5.

Jennifer R Evans (n.d.) Antibiotics for trachoma. *Cochrane Database of Systematic Reviews*. [Online] (9). Available from: doi:10.1002/14651858.CD001860.pub4.

West, S., Muñoz, B., Lynch, M., Kayongoya, A., *et al.* (1995) Impact of face-washing on trachoma in Kongwa, Tanzania. *The Lancet*. [Online] 345 (8943), 155–158. Available from: doi:10.1016/S0140-6736(95)90167-1.

Henry OD Ejere, M.B.A. (2015) Face washing promotion for preventing active trachoma. *The Cochrane database of systematic reviews*. [Online] 2. Available from: doi:10.1002/14651858.CD003659.pub4.

Emerson, P.M., Lindsay, S.W., Alexander, N., Bah, M., *et al.* (2004) Role of flies and provision of latrines in trachoma control: cluster-randomised controlled trial. *The Lancet*. [Online] 363 (9415), 1093–1098. Available from: doi:10.1016/S0140-6736(04)15891-1.



Mansur Rabiou, M.B.A. (2012) Environmental sanitary interventions for preventing active trachoma. *The Cochrane database of systematic reviews*. [Online] 2. Available from: doi:10.1002/14651858.CD004003.pub4.

Onchocerciasis: core / essential reading

Hopkins, A. (2012) Onchocerciasis. In: Gordon J. Johnson (ed.). *The epidemiology of eye disease / edited by Gordon J. Johnson ... [et al.]*. 3rd ed. [Online]. London :, Imperial College Press. pp. 487–507. Available from: <https://contentstore.cla.co.uk/secure/link?id=b97d4e14-0cef-e811-80cd-005056af4099>.

WHO (2018) Progress report on the elimination of human onchocerciasis, 2017–2018. *WHO Weekly Epidemiological Record*. [Online] 47 (93). Available from: <https://apps.who.int/iris/bitstream/handle/10665/275983/WER9347.pdf?ua=1>.

Onchocerciasis: optional / additional reading

Cantey, P.T., Roy, S.L., Boakye, D., Mwingira, U., *et al.* (2018) Transitioning from river blindness control to elimination: steps toward stopping treatment. *International Health*. [Online] 10 (suppl1), i7–i13. Available from: doi:10.1093/inthealth/ihx049.

The Non-Governmental Development Organisation (NGDO) Group for Onchocerciasis Elimination (2016) *River Blindness: The beginning of the end*. [Online]. Available from: <https://mectizan.org/wp-content/uploads/2018/11/Onchocerciasis-Advocacy-Document.pdf>.

WHO (2016) *WHO Guidelines for stopping mass drug administration and verifying the elimination of human onchocerciasis*. [Online]. Available from: https://apps.who.int/iris/bitstream/handle/10665/204180/9789241510011_eng.pdf?sequence=1.

Leprosy: core / essential reading

Anon (n.d.) *Leprosy*. [Online]. Available from: <https://www.who.int/en/news-room/fact-sheets/detail/leprosy>.

Anon (n.d.) *The Eye in Leprosy | International Textbook of Leprosy*. [Online]. Available from: <https://www.internationaltextbookofleprosy.org/chapter/eye-leprosy>.

Leprosy: optional / additional reading



Courtright P, L.S. (2006) *Prevention of blindness in leprosy*. [Online]. Kilimanjaro Centre for Community Ophthalmology. Available from: <https://www.leprosy-information.org/sites/default/files/Prevention%20of%20blindness%20in%20leprosy.pdf>.

Anand S, Neethiodiss P & Xavier JW (2009) Intra and Post Operative Complications and Visual Outcomes Following Cataract Surgery in Leprosy Patients. *Leprosy review*. [Online] 80 (2). Available from: <https://pubmed.ncbi.nlm.nih.gov/19743622-intra-and-post-operative-complications-and-visual-outcomes-following-cataract-surgery-in-leprosy-patients/>.

J. R. O Collin (1989) *Medial Canthoplasty from A manual of systematic eyelid surgery*. 2nd edition. [Online]. Churchill Livingstone. Available from: <https://contentstore.cla.co.uk/secure/link?id=cf67b7d9-8742-ea11-80cd-005056af4099>.

HIV: optional reading

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Hayes, R.J., Donnell, D., Floyd, S., Mandla, N., *et al.* (2019) Effect of Universal Testing and Treatment on HIV Incidence — HPTN 071 (PopART). *The New England Journal of Medicine*. [Online] 381 (3), 207–218. Available from: doi:10.1056/NEJMoa1814556.



Teaching for Disabilities and Learning Differences

The module-specific site on Moodle gives students access to lecture notes and copies of the slides used during the lecture. Where appropriate, lectures are recorded and made available on Moodle. All materials posted on Moodle, including computer-based sessions, have been made accessible where possible.

LSHTM Moodle is accessible to the widest possible audience, regardless of specific needs or disabilities. More detail can be found in the [Moodle Accessibility Statement](#) which can also be found within the footer of the Moodle pages. All students have access to "SensusAccess" software which allows conversion of files into alternative formats.

Student Support Services can arrange learning or assessment adjustments for students where needed. Details and how to request support can be found on the [LSHTM Disability Support pages](#).