

Ask the Examiner - The Final Assessment

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- **DB** // [May 21, 2007 at 10:22 am](#)

Hi Jane.

My friend and I attended your City course a few weeks ago and I think you mentioned that we can get a hold of a sample case scenario for the CDM from the College? Can you tell us where to find it or who to contact?

- **Jane Macnaughton** // [May 21, 2007 at 11:29 am](#)

The scenario can be found [here](#)

The exam papers for the practical exams (Routine , CL fit and CL aftercare) can also be found on Joy Myint's blog [here](#)

- **Jayesh** // [May 22, 2007 at 3:25 am](#)

Can you tell me if we still need to do perimetry in the routine exam? My assessor said that we dont but some of my friends say that we still need to.

- **Joy Myint** // [May 22, 2007 at 11:51 am](#)

I will, of course, pontificate in my normal fashion when answering this.

This unfortunately is not a yes or no answer.

The college guidelines state that:

“This section requires you to demonstrate that you are able to carry out a complete routine eye examination of presbyopic patient and elicit the necessary information to draw appropriate conclusions. This might include recommending additional tests, referral, spectacles and any other appropriate action. You will not be penalised if you do not use confrontation”

However it also says:

“and elicit the necessary information to draw appropriate conclusions.”

So....

e.g. a patient presenting with signs/symptoms of stroke or retinal detachment and you don't do confrontation or perimetry or don't recommend appropriate field testing as one of the additional tests requiredthen you could be failed as you have not demonstrated competence.

You need to manage the patient you are given on the day.

-
- **hurstsj** // [May 23, 2007 at 10:02 am](#)

Hi Jane,

As HES pre-regs my co-pre reg and I are struggling on a few points about accommodation and binoc balancing. How do you know when not to use duochrome, binocular balance and +1.00 blur on an older presbyope?

I know that after 55 yrs it is said that there is little useful accommodation, but some 60 yr olds do ok on duo...can you shed any light on what we should do when? Is there much point binoc balancing a 60 yr old? and if not, do we leave out +1.00? But then -how do we check end point? help!

Thanks!

-
- **Jane Macnaughton** // [May 26, 2007 at 12:46 am](#)

These questions are commonly encountered in the routine exam. I have been trying to find a more thorough and academic reply to this post but have been unable to find any further references. When I do, I shall let you know!

In the meantime:

Binocular balancing is there to balance the accommodative effort between the eyes. As you have stated, there is typically little useful accommodation over the age of 55, so there would be little point in doing this at all –

otherwise you would be balancing the 'depth of focus' between the eyes. In my experience, I tend to use the cut off for attempting binocular balancing (in the absence of unequal VA's etc) at around 55.

Interestingly, in the case of balancing depth of focus, my initial reaction is 'why don't we'? I am sure that there is a perfectly good reason but I have yet to argue that one out with my fellow examiners. Jury out.

The **duochrome** is one of those check tests which has quite a variable response between patients. The eye does exhibit chromatic aberration which is protected in the main by the lutein component within the retina. That residual 'uncorrected' aberration can be demonstrated with the duochrome test. However, with age the yellowing of the crystalline lens (thus absorbing the blues) reduces this even further so that it is difficult to demonstrate with the duochrome and thus responses from older patient become ever more variable. There is a certain element of 'suck it and see' with the duochrome in older patients. But be wary of the patient who is comparing the brightness between the rings rather than the clarity. If you are trying to binocular balance an older patient then don't use the duochrome, and try a different method.

The **+1.00D blur** test is again one of those final sphere check tests. With the average pupil the patient should be reduced to 6/12-6/18. If they have a very small pupil this may be slightly better as the small pupil will act as a pinhole and reduce the size of the blur circle on the retina. Some suggest that the +1.00 Blur will reduce by X number of lines, but I would not go with that due to the non-linear increase in size between successive lines on the standard Snellen acuity chart.

If, with an average pupil size the VA is significantly better than 6/12 then go back and check your sphere as it may be under plused. There is no 'accommodative element' in this test and thus there is no cut-off age in its use, but just watch out for small pupils.

-
- **ishrat** // [Jun 4, 2007 at 11:47 pm](#)

Hi Jane,

Hope you are well. just wanted to know if during the routine examination was it compulsory for us to measure the amplitude of accommodation of the patient or would it be acceptable to estimate the add based on the patient's age and then refine it using near duochrome etc.

-
- **Jane Macnaughton** // [Jun 5, 2007 at 5:21 am](#)

Hi Ishrat,

It is questionable whether or not you will need to measure a patient's amplitude of accommodation in this exam as you will be given a presbyopic patient. And in those cases, you may arguably be also measuring depth of focus and not accommodative effort. Measuring amplitude of accommodation is probably not worthwhile if they are over 55

With the near add, use a certain element of common sense. Age is by far the overriding factor for choosing the addition. I have always felt that prescribing a near add is an art rather than a science, although I am sure that there will be many who disagree with me.

Factor in the patient's age, arm length, their tasks etc. Make your choice of add according to whatever methods you have put in place. (Near duochrome is fine - but just check before hand if there is one in the exam cubicle).

It is also better to ask the patient to keep the text at their preferred working distance rather than to move it to where your add makes it appear the clearest. I find the +/- 0.25 binocular flip useful here. With the new add in place and retaining the habitual working distance, place an +0.25 binocularly in front of the patient. If it is clearer, add it to the trial frame and repeat again.

If the patient reports a blur then simply remove it.

Back in the real world, we would have the previous Rx to make comparisons with. And so if the +0.25 add appears the same, you would keep it in if doing so retains their overall equivalent amount of plus for near. What you don't want to do is to drop the add at any time as you will have a non-tolerance on your hands.

Good luck and as Peter says, "See you on the other side!"

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- **Jane Macnaughton** // [Jun 5, 2007 at 5:34 am](#)

Just checked with the College - a near duochrome test is not specified as one of the pieces of equipment that the centre must provide for the routine exam. So, just in case one is not available at your exam centre, practice another method of assessing the near add, just in case.

-
- **Simon Frackiewicz** // [Jun 5, 2007 at 2:27 pm](#)

Hi hurtsj

Sorry for the delay in responding. I would personally try to separate the issues into those that involve accommodation and those that do not.

Firstly, **binocular balancing tests** are performed to ensure that neither eye has over-accommodated during monocular refraction, therefore it should naturally follow that if a patient has no accommodation, either through being presbyopic or aphakic for example, then over-accommodation is not physically possible. The exact age that a patient is considered not to have any accommodation is debatable as some sources say it ceases at the onset of presbyopia whereas others consider it to gradually reduce throughout the 4th to 6th decades. David Elliott's 'Clinical Procedures in Primary Eye Care' states:

“[binocular balancing] should not be performed if the patient is ... older than approximately 60 years or pseudophakic◆◆?.

Duochrome is used to ensure that the centre of the visual spectrum is focused on the retina, and whilst it can be used to detect over-accommodation, it does not itself rely on accommodation in order to work. Thus the reasons for choosing not to use the duochrome test on older patients stems more from the change in media clarity and brunescence of the intraocular lens. This has the effect of filtering out shorter wavelengths of light, which in the case of the duochrome reduces the luminance of the green background more than the red, thus may induce a false result. I personally do use the duochrome test in older patients, but generally those who are known to have clear media, particularly post cataract surgery. Speaking to other practitioners, the age at which the test is considered unreliable is very much a matter of personal preference.

The **+1.00 blur test** is a monocular balancing test, again used to ensure that there is no over-minusing, and thus over-accommodation. For me, the same conditions apply with respect to the patient's age and accommodation, however, it remains a useful test in order to confirm there is no significant over or under correction, particularly if the patient gives poor subjective responses. Beware of small pupils, and thus a large depth of focus, as this can lead to spurious results in the older patient.

I hope this helps!

Simon

-
- **lornadufour** // [Jun 7, 2007 at 5:11 am](#)

Hi Jane

Was wondering in the CDM ocular mobility section.
It provides you with cover test, npc and motility results.

If there near phoria is greater than there distance phoria but with no problems do you just ignore it? only recommending orthoptic exercises such as pen to nose and dot card exercises if they are having reading problems?

Or if there distance phoria was greater than there near would you recommended lens flippers for accommodation or prism flippers to increase fusional reserves? Or is it always only if the px is symptomatic?

Also if motility was slow and jerky and over the age of 30etc what would you do?

Thank you
Lorna

- **Simon Frackiewicz** // [Jun 7, 2007 at 2:40 pm](#)
-

Hi Lorna.

In my experience, phorias only require intervention if they are causing symptoms. Admittedly, young children may not be able to elucidate their symptoms, therefore particular attention must always be paid to the speed and quality of recovery on cover test.

The examples given in your question imply you are referring to **EXOphoria**. Indeed, an exophoria larger at near (**convergence weakness exophoria**) can be associated with **convergence insufficiency**, but not in all cases, thus orthoptic exercises would only be indicated in the presence of symptoms. Equally, an exophoria larger in the distance than near (**divergence excess exophoria**) does not automatically cause any problems to the patient, thus treatment is not always required.

The case of **ESOphoria** is quite different, as an esophoria greater at near (convergence excess esophoria) in a child may be a precursor to fully accommodative or convergence excess esotropia, and should be investigated accordingly, even if there are no symptoms. Additionally, an esophoria greater in the distance than near (divergence weakness esophoria) can indicate a weakness of the lateral recti, potentially arising from abducens nerve palsy, which therefore require appropriate investigation.

Your final question about 'slow and jerky' ocular motility is harder to answer definitively, thus I would recommend assessing the ocular deviation in all gaze positions and looking for a pattern of underactions and limitations. Defects of the smooth pursuit system per se are generally the result of a higher brain injury and are not common.

I hope this helps.

Simon

- **lornadufour** // [Jun 8, 2007 at 1:04 pm](#)
-

Thanks Simon
makes a lot more sense now thanks, Lorna

- **Clare Hawkins** // [Jun 9, 2007 at 3:58 am](#)
-

Hi

1. CDM exam: Visual Fields

Just wondering if you could help me with age-norm thresholds for field testing. In Henson's book on visual fields it says sensitivity reduces with age by 0.6dB per decade, but no starting value. Besides this, I have been unable to find any other info about what constitutes a normal threshold for each decade. On Humphreys total and pattern deviation plots compare to age norms but need to know for the other types of plots. Hope you can help?

2. RGP lenses. My trial set is non-branded C4 lenses which at work we then use to check the fit, then order customised lenses e.g. material etc. Is it necessary to learn a make of branded RGPs? Have learned about branded soft lenses in terms of if we stocked a certain brand - necessary to know more than one brand or just that you'd look in ACLM?

3. Always puzzled me: on a parallelepiped you increase beam width from optic section so the 3 sections of the beam become 2 sections. If looking at the cornea, the anterior section is the epithelium but what is the posterior section of the beam - endothelium (where does the stroma go?) or epi/stroma/endo section with just magnified epithelium as first section of beam? Know this point isn't majorly important, but just wondered if anyone had a definitive answer.

Good luck with the revision everyone!

Clare

-
- **David Henson** // [Jun 11, 2007 at 3:46 am](#)

Dear Clare,

Visual Fields

There are a couple of points here that you need to be aware of.

1) dB scales are scales of attenuation not of intensity. 32dB on one instrument is not necessarily the same as 32dB on another instrument. Each instrument has a base line intensity, in the Humphrey it is 10,000 apostilbs and in the Henson it is 1000cd/m². The dB value can be considered as a filter strength placed in front of the light source, the higher the value the deeper the filter and the dimmer the light. There are also other factors that effect the dB value, e.g. the background luminance. If the background is bright then the dB values will be lower.

2) The other point that you need to be aware of is that the sensitivity is not constant across the visual field but decreases with eccentricity. So you cannot talk about a fixed value for age without specifying location. In the Henson perimeters every location has a specific value that is stored within its memory. In addition the rate of loss

with age is not consistent for all locations and while the average value might be 0.6-0.8 dB/decade it will be higher in the periphery. The Henson has a specific rate for each location that it uses when calculating normative values for a particular age.

I hope this helps, like everything else in perimetry things tend to be more complex than they might at first appear.

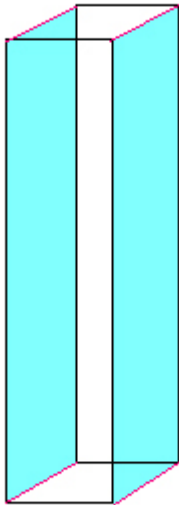
Regards,

[David Henson](#)

-
- **Jane Macnaughton** // [Jun 11, 2007 at 9:01 am](#)

Clare

Parallelepiped



In the optic section the three distinct layers are easily visible because you have a 2-dimensional slice through the cornea. By widening the beam you have introduced a three dimensional block view, or parallelepiped. The front or anterior surface is, as you say, the tears film/epithelial interface. The stroma is still there in your view, highlighted in green, and you are seeing it as the space between the two interfaces. The posterior face is that of the endothelium.

-
- **Dr Christine Astin** // [Jun 12, 2007 at 2:31 am](#)

Ask the Examiner

The Final Assessment 2007



RGP Contact lenses: I would advise you to know fully the specifications of the RGP CL set you normally use and preferably have an idea of an alternative design, e.g. Aspheric. Similarly, it's a good idea to know a few different soft CL designs.

Christine

-
- **hi5** // [Jun 16, 2007 at 6:54 am](#)

For the routine:

If the px is asymptomatic, would we fail if we did not do fixation disparity following the subjective (distance and near)? If a patient is a VDU user, then we will have to do 3 prescriptions and 3 cover tests, so fixation disparity would really leave us pushed for time.

Would we fail if we did not perform amplitude of accommodation on an over 55?

Thank you.

-
- **ishrat** // [Jun 17, 2007 at 3:26 am](#)

Hello

Hope every is well and the revision is not too dull!!!

Just a few points i would like to clarify:

1. For a presbyope do you have to get the patient on duo green before you do cross cyl, because from what i have seen they always seem to choose the red due to lenticular media changes.
2. Is is advisable to wash your hands before you do direct ophthalmoscopy as you must touch their lids or is not a problem? Also should we use the green filter when checking the fundi or do you think the normal white light is sufficient?
3. The DVLA specifies that the target should be equivalent to the III4e on the Goldmann Visual field machine. Can you please tell me what these symbols stand for?

Thanks for all the examiner's answers. they are really helpful.

ishrat

- **ishrat** // [Jun 17, 2007 at 3:35 am](#)

oh sorry 1 more question. I have been looking for the average values of accommodation, convergence and stereopsis, motility etc for children of various ages but could not find it on the internet. can someone please direct me to a good website or kindly me tell the values.

thanks

- **Jane Macnaughton** // [Jun 17, 2007 at 9:18 am](#)

Hi5

Fixation Disparity:

If the patient is asymptomatic and has good recovery on cover test then arguably you should not need to do FD at all. Leaving it out in this instance would be considered appropriate and thus would not constitute a fail.

However, all patients in the routine exam have been instructed to inform you that they have 'lost their glasses.' They may in fact be asymptomatic because their current specs are correcting, for example, a small vertical imbalance that they had in the past which, if not corrected in your new prescription, would result the symptoms recurring.

So it could be argued that although the patient is asymptomatic, you may need to do FD anyway. Alternatively, factor in a question around this in the H&S – Did you have symptoms in the past that required any special treatment, such as prisms in your glasses?

With **amplitude of accommodation**, consider what you are actually recording in patients over 55-60. I don't think it is a useful test here, it really isn't telling you anything. When you have selected your add, what is more useful is to establish the range of focus that you have with the new add in place. I would leave it out. Either way, in or out, this would not constitute a fail.

Ishrat

Duochrome: You are correct. Older patients will favor red on the duochrome (for reasons see earlier post above) and thus it is not worth relying on their answers.

Hand washing: With most exam centres, sinks are often a long walk away. Given the consideration for time, wash them just before you go in. I always think it is courteous to inform the patient that are about to touch them and just explain a little before you start. But the examiner will not be expecting you to disappear to wash your hands. They will for the CL fit section though. In fact if you don't, this may be considered a lack of hygiene which is one of the competencies examined.

If the patient has something of note which is worth examining with the **red free (green) filter** then yes, use it. Vascular lesions in particular. Whether or not you use it routinely, is up to you.

As with all procedures, consider why you are using the test, what you are likely to find by doing the test, and once found, what will you do about it

The **III4e** refers to the size of the target. We shall get back to you later with a more precise answer. In gross arc perimetry the equivalent target is a 5mm white or a 15mm red target. Theoretically they will plot the same isopter on kinetic perimetry.

Re Values - Will get back to you on that one! This info you will need for the CDM exam

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- **lor nadu four** // [Jun 19, 2007 at 8:56 am](#)

hey for the CDM exam:

Low vision px with a +8DS add? In dispensing the px would you wish to add prism to aid convergence by using the rule of thumb or by another method?

rule of thumb being:

+4= no decentration

+5= 1 diopter base in

+6= 2 diopter base in

+7= 3 diopter base in

+8= 4 diopter base in

so with this px you would give then 2 diopter base in each eye. Then do $P = cF$

$C = 4/8 = .5\text{CM}$ = near pd would be 5mm less than the distance pd?

IE $62 - 5 = 57\text{MM}$

If it was a lower add e.b +4DS would you do nothing or decenter the lenses in for a +lens? ie $\text{NCD} = \text{pd} \times \text{wd} / \text{wd}$

$+a + \text{bvd}$

$\text{wd} = 1/8 = 125\text{mm}$

pd = distance pd 62MM

a = half the optical axis ie 12mm

bvd = 12mm

$\text{NCD} = 62 \times 125 / 125 + 12 + 12 = 7750 / 149 = 52\text{MM}$

thanks Lorna

- **Simon Frackiewicz** // [Jun 19, 2007 at 1:45 pm](#)

Hi Ishrat

The 'III4e' stimulus used in Esterman fields relates to the equivalent Goldman perimetry stimulus notation. In Goldmann perimetry, the stimulus has two variables, namely area and intensity. The area is denoted by the Roman numeral at the beginning of the stimulus notation, i.e. in this case III. There are six stimulus sizes, from 0 to V, each step relating to a four-fold increase in area, i.e. 0 = 0.0625 mm², I = 0.25 mm², II = 1 mm², etc. You can therefore deduce that the size III stimulus has an area of 4 mm².

The intensity settings are given by the Arabic numeral and lowercase letter, in this case 4e. The maximum intensity of the stimulus is 1000 Apostilbs (asb) (π Apostilb = 1 cd/m²), which can be reduced by introducing a combination of neutral density (ND) filters in 0.5 and 0.1 log unit steps. Numerals from 1 to 4 relate to the density of the coarse filter used (i.e. 0.5 units) where 1 = 1.5 log units and 4 = 0.0 log units. Letters from a to e denote the density of fine filter, where a = 0.4 log units and e = 0.0 log units. In this way, the higher the number and letter combination, the lower the ND filter and the brighter the stimulus, so 4e is brighter than 1a. The 4e relates to 0.0 log units of ND filter thus a maximum intensity of 1000 asb.

In summary, the III4e stimulus has an area of 4mm² and an intensity of 1000asb or 318 cd/m².

I hope this answers your question.

Simon

- **skm** // [Jun 23, 2007 at 10:49 am](#)

Hi, just a few questions regarding the C/L exam:

1. Are we required to check visions and do an O/R in the fitting/aftercare?
2. Can we assess the TBUT & TPH in the C/L aftercare in the slitlamp routine, instead of the fitting?
3. Do we need to write the BOZD and peripheral curves in the RGP spec?

Thank you

- **hurstsj** // [Jun 25, 2007 at 12:37 pm](#)

Hi,

Just something that's bothering me! On the AOP list of referrals, CSR is down as an Urgent (ie 1-14 days) referral. Can anyone explain why this is, when it is a self limiting condition, which ophthalmologists will only consider treating if persistent for 4months? Is it just to confirm diagnosis? Otherwise wouldn't routine referral be more appropriate?

Thanks, Sarah

-
- **BW** // [Jun 25, 2007 at 1:33 pm](#)

Hi,

In the CDM exam we will be given the city uni 3rd edition colour test - I only have the 2nd edition at work - is it similar in that you have chroma 4 and chroma 2 plates? Is it still out of 10 with 5 or more defects meaning a colour vision deficiency?

Thanks

-
- **Jane Macnaughton** // [Jun 26, 2007 at 10:54 am](#)

Hi Lorna,

Binocularity and prism incorporation

If a high-powered addition is given binocularly, increased convergence will be needed to avoid diplopia. For every dioptre of focusing for near vision, whether by accommodation or lens addition, there is an associated one-metre angle of convergence. So, for any low vision patient viewing an object at 10cm (e.g. +10.00D lens giving 2.5x magnification) 10 metre angles of convergence will have to be used to maintain binocular single vision. This value may be converted into prism dioptres by multiplying the interpupillary distance in cm by the metre angle value.

Worked example

For a patient with PD of 65mm viewing at 1m, convergence required is 6.5 prism dioptres

For a patient with PD of 65mm viewing at 10cm, convergence required is 65prims dioptres

To allow for the extra convergence, adequate decentration or base-in prism should be worked, a **rule of thumb** being "1mm in decentration of bifocal segment for each dioptre of reading addition for each eye or, for single vision lenses, one prism dioptre base-in ground on lenses for each dioptre of reading addition in each eye♦♦?".

Worked example

For the patient with +10.00D addition and PD of 65mm, 10mm decentration should be given to each lens (or 10 prism dioptre base-in each eye if single vision).

As to when to prescribe, I would see how comfortable the patient is at +4.00 without the prism, but +4 or +5 is the usual starting point to consider some help.

In my experience I have rarely prescribed binocular high reading additions. Few patients are binocular and few will have equal VA's. In reality what you do tend to find is that patients will use one eye in preference and sometimes even close the other eye.

It is unlikely that you would be given a complex calculation in the CDM exam, at most you would be asked to discuss when you would consider prism and approximately how much.

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- **Simon Frackiewicz** // [Jun 26, 2007 at 11:25 am](#)
-

Hi Ishrat,

Further to your question on average values for stereopsis etc. for children of 'various ages', it is difficult to give specific answers. As you are aware, infant visual development is very rapid during the first few months of life, therefore many aspects of binocular vision have reached near adult levels by six months.

Looking in the literature I have available, normal ranges vary depending on the author and test method, however the following may be useful ballpark values.

Accommodation – obviously dependent on age, maximum at approximately age 10 and may exceed 12 dioptres.

Stereopsis – 30-60 arc minutes would be considered normal

Convergence – to nose or 6cm is normal in young children, and drops with age with the reduction in accommodative convergence.

Motility – no normal ranges as such, but pursuits should be full and smooth in all 8 positions of gaze.

Motor fusion – I think it is useful to commit these to memory, or at least remember the relative sizes of the ranges:

Horizontal:

1/3m 35-40Δ convergence to 14-16Δ divergence

6m 14-16Δ convergence to 5-7Δ divergence

Vertical:

1/3 & 6m 2-3Δ L/R to 2-3Δ R/L

Cyclorotation:

1/3 & 6m 2-3° incyclo to 2-3° excyclo

I hope this helps.

Simon

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- **Peter Chapman** // [Jun 27, 2007 at 4:43 am](#)

Sarah

With regards to CSR, I agree with generally being self limiting, but, i would maybe consider how confident you are with the diagnosis and does CSR need to be differentially diagnosed from any other condition that is potentially sight threatening?

Im my experience you need to be able to justify your answers and as to why to chose that management option. There are some black and white answers but also many areas of grey.

There may also be other management options eg. consider ringing the local eye department and asking for their advice and when they would like to see the patient as local guidelines can differ

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- **Jane Macnaughton** // [Jun 27, 2007 at 5:14 am](#)

Hi SKM,

1. *Are we required to check visions and do an O/R in the fitting/aftercare?*

In the fit exam you will not be expected to take VA's as a part of the exam, although some will use the stability of the patient's VA with the lens in situ as one aspect of assessing the fit if the lens. ~~You should take the VA in the aftercare exam and do a quick over refraction as you would normally do.~~

From Hi5: *Jane, It clearly says on our instruction booklet from the college NOT to perform an over-refraction in the contact lens aftercare.*

Jane: *Ahh, interesting. I have some literature here that says otherwise, which I must say did intrigue me as I didnt think there was enough time for it. Under the old system we would have asked the trainee to move on at*

this point and not do an over refraction but under the new system we dont interrupt now. I am pleased that you have corrected me here. What is stated in the pre-reg handbook holds more weight. Thanks for pointing it out.

2. Can we assess the TBUT & TPH in the C/L aftercare in the slit lamp routine, instead of the fitting?

Yes. Assessment of TBUT and TPH comes into the aftercare exam during your slit lamp routine. When you use the slit lamp in the fit section you tend to only use it for fit assessment and then to check the cornea once you have removed the lens/es. We will check that one and get back to you.

-
- **Dr Christine Astin** // [Jun 27, 2007 at 5:15 am](#)

Contact lens question:

- 1) Do VA in CL Aftercare exam and say you'd do over Rx. In CL fit, you don't need to perform VA and over Rx but must say that you normally do these before write CL order.
- 2) Yes You can do Tear tests in A/C but be safe and do them in New Fit too.
- 3) For RGP CL order it's not vital to note BOZD and peripheral curves as you may use an aspheric design CL, but it helps if you could explain the influence of these if asked.

-
- **Joy Myint** // [Jun 27, 2007 at 5:21 am](#)

Hi SKM,

To answer your third question:

3. *Do we need to write the BOZD and peripheral curves in the RGP spec?*

In some instances it may be acceptable just to record BOZR:TD: BVP. If the lens fits!

However if you insert a lens from your C3 fitting set (this is a hint) and the fit is not quite right, and the best way to rectify it is to alter the peripheral curves then the obvious answer is to write the full specification. This is if your chosen manufacturer allows this, which is quite likely they will.

So my answer ?

It depends.....

-
- **Peter Chapman** // [Jun 28, 2007 at 11:25 am](#)

Lorna

In relation to dispensing prism with high adds, I agree with Jane and add 1 prism dioptre of prism each eye for every dioptre of add over +4DS.

From a dispensing point of view, the prism should ideally be split to even the cosmetic appearance and weight distribution of the spectacles for the patient.

Decentring of the lens is possible but my choice would be to work the prism when surfacing.

"so with this px you would give then 2 diopter base in each eye. Then do $P = cF$

$C \ 4/8 = .5CM = \text{near pd would be 5mm less than the distance pd?}$

$IE \ 62-5 = 57MM \ \diamond \ \diamond \ ?$

With regard to the above example, monocular near centration distances (ncd) should be used when ordering the spectacles. If distance pd is used, on convergence for reading, base out prism is being induced by viewing through the nasal portion of the lens and thereby meaning even more convergence is needed.

Your maths is correct and the overall decentration required is 5 mm. The 2.5mm each lens should be then subtracted from the monocular ncd. ie. if the patients ncd is R 30 and L 32, the lenses should be set at R 27.5 and L 29.5 to allow for the prism to be produced.

I hope this helps

Peter

-
- **Parul Desai** // [Jun 29, 2007 at 5:37 am](#)

Sarah,

Question on CSR :

CSR can be suspected clinically from history and examination, but cannot be confirmed without further investigation.

Referral is indicated to

- (a) establish or confirm clinical diagnosis by diagnostic tests - FFA (fundus fluorescein angiography), and
- (b) to rule out any other causes of RPE leaks e.g. CNV, inflammatory disorders, tumours etc.

Treatment is not always indicated , but that is not the purpose of the referral.

[Parul Desai](#) MSc PhD FRCS FRCOphth FFPH. Consultant Ophthalmic Surgeon, Moorfields Eye Hospital, London.

- **hurstsj** // [Jun 29, 2007 at 10:03 am](#)
-

Thankyou that clears things up

Sarah

- **Jane Macnaughton** // [Jul 1, 2007 at 11:31 am](#)
-

BW,

City University Third Edition: The 'screening plates' have a unique design and involve a visual task not used in any other test. However, these plates have not been validated; the only publication about the test is in the Optician. There is nothing in a refereed journal, hence no estimate of **sensitivity and specificity** is available. Thus the manual's pass/fail criteria must be considered within this context.

The 2nd edition had been validated in several refereed studies.

The 2nd edition had **10** plates intended to grade the severity of colour deficiency. The 3rd edition has only **6**. Only 3 of these plates were included in the 2nd edition, the others are different. 3 plates have chroma 4 and 3 plates have chroma 2. Hence any previous standard based on the number of plates failed out of 10 will not apply.

However, I am not sure where the '5 out of 10' comes from? The 2nd edition is a **grading test** and is given to people who fail an accurate validated screening test such as the Ishihara plates. People with slight colour deficiency pass the 2nd edition without error. People with significant, moderate/severe, colour deficiency fail. An error on 1 plate out of 10 is a fail. Deutans with moderate colour deficiency make 3 errors or less, deutans with severe colour deficiency make 4 errors or more. Protans make fewer errors than deutans because perceived lightness differences help them to obtain good results. Hence moderate or severe protan deficiency cannot be distinguished by the number of plates failed.

PS: It is not good clinical practice to give a grading test without prior screening because there is the danger that colour deficient people will be told that their colour vision is normal and may get an unwelcome surprise later on.

Your question on colour vision has opened up an interesting can of worms at our end. However, this may not help you with the CDM that is soon to come!

- **Catherine Viner** // [Jul 4, 2007 at 2:34 am](#)

SKM: Contact lens Question:

1. *Are we required to check visions and do an O/R in the fitting/aftercare?*

Normally the examiner will tell you what the VA is and also any O/R result, however, probably good practice to tell the examiner that you would normally check VA and O/R at the relevant point and allow the examiner to let you know what the results are for these procedures.

2. *Can we assess the TBUT & TPH in the C/L aftercare in the slitlamp routine, instead of the fitting?*

Tear Assessment normally expected in fitting section.

3. *Do we need to write the BOZD and peripheral curves in the RGP spec?*

If you can, great, but minimum would be: BOZR/TD/BVP

-
- **hi5** // [Jul 4, 2007 at 2:43 am](#)

Can anyone help me with these:

1. Bilateral SR underaction, in a 15yr old male with headaches when studying. No Rx, NPC and Accom were ok. What would be the cause and management?
2. What are the legal implications of telling px last optom made a mistake with their spex and how to word it?
3. Whos responsibility is it to let school know about any difficulties a child may have with a visual impairment?
4. What is a bilateral Bielschowsky head tilt test?

Thank you.

-
- **Jane Macnaughton** // [Jul 4, 2007 at 3:04 am](#)

Hi5,

In answer to the Low Vision question: *'Whose responsibility is it to let school know about any difficulties a child may have with a visual impairment?'*

If a child has a recognised as having a visual impairment (or indeed any impairment), there is a formal system in place that offers help and advice to the children, the parents, and the school at all levels.

Children Act 2004

This act, which covers many aspect of the rights, welfare and education of children, states that,

- Help should be available to all 'children in need.'
- A child is considered 'in need' if he is 'unlikely to achieve or maintain, or to have the opportunity of achieving or maintaining, a reasonable standard of living.'
- Registration as Blind / PS by the local authority / PCT is therefore not necessary to establish a 'need' under the Children Act.
- Local Education Authorities (LEA's) employ educational advisors or peripatetic teachers of visually handicapped children who are knowledgeable in child development and learning and are able to offer expert help to mothers of pre-school and school age children.
- Local Education Authorities have a duty to identify, assess and provide for all children recognised with special educational needs from the age of 2. Before this, the responsibility lies with the local social services or local child health services under the instruction of the PCT.

Under the 1996 Education Act, schools and education authorities are required to provide help to visually impaired children. When a child embarks upon their education, the Primary Care Trust must inform the Local Education Authority of any child who is likely to have Special Educational Needs. The child need not be registered Severely Sight Impaired (Blind) or Sight Impaired (Partially Sighted) at this stage, but the LEA notification is mandatory from the age of 2 and up to the age of 19.

In the case of newly diagnosed children, the GP will first refer the child to a Children's Developmental Unit for a comprehensive assessment of the child's needs. The team there may include a paediatrician, educational psychologist, physiotherapist, occupational therapist and a social worker. The assessment process should provide the basic information on which a programme of education and treatment can be based, and also refers the parents to appropriate sources of help outside the unit.

Once a child has been identified as having special needs, there is then a 5-stage code of practice during which a **Special Educational Needs Co-ordinator (SENCO)** together with the Local Education Authority may request assessments from outside specialists. All schools have a Special Needs Co-ordinator, usually the head teacher (or deputy head teacher) who is responsible for special educational needs in the school. With visually impaired children, these additional assessments and reports may be requested from the child's ophthalmologist and hospital optometrist (if he or she has one). Other reports may also be requested from an educational psychologist, or the child's GP etc. Once reports have been put together, the LEA will consider the child's needs and produce a written **Statement** (In Scotland: Record of Needs). This written document will outline the child's needs for special equipment, such as low vision aids or a CCTV, transport to school, or perhaps the extra tuition from a specialised teacher or the inclusion of a classroom assistant etc.

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The Final Assessment 2007



Once this fifth stage has been reached it is typical to have an annual review. Parents are actively involved in this process.

Once something has been detailed in the statement, then there is a duty for the LEA to provide it.

Reference: [Eye Essentials, Low Vision Assessment](#).

Apologies for being long-winded – thought it best to give you the answer in full! Good luck –Jane.

-
- **ishrat** // [Jul 4, 2007 at 8:12 am](#)

Hi everyone,

just wanted to know for the full routine if the patient uses the VDU and their add is sufficiently high, would we also have to measure what their intermediate add would be as the time is already quite limited??

thanks

-
- **Jane Macnaughton** // [Jul 4, 2007 at 10:29 am](#)

Ishrat:

If the patient is complaining that they are unable to read the screen at their preferred working distance with their current correction, then I would want to see you make an effort to correct this during the Routine. However, I doubt if it would constitute a direct fail on its own if you did not.

If your patient has indicated that they are a VDU user and that they are happy with their current Rx, then if you are pushed for time, you should at least measure the working distance of the screen and their level of vision at this distance. Then mention in the supplementary section that you would prefer to go back and check the intermediate addition later.

Oh, and take a tape measure into the exam. It saves time and ensures your accuracy.

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- [» Online Education takes a new form » The Optometry Blog, by CLEARVIEW](#) // [Jul 11, 2007 at 7:23 am](#)

[...] We welcome discussion and shall be happy to take any questions in our 'Ask the Examiner' and 'Ask the Assessor' threads. [...]

- **SN** // [Sep 10, 2007 at 12:42 am](#)

Just a quick random question where I cannot find the answer to anywhere but there is a condition in which our vertical fusional reserves are increased more than the normal 4 prism dioptres..do you have any idea what it may be??

One of the competencies is 'manage a non tol case.' [On your recent CVD course] Joy mentioned different base curves being a problem but I do not know how exactly it becomes a non tol case? What cant the px get used to with a different base curve!

-
- **Simon Frackiewicz** // [Sep 10, 2007 at 4:55 am](#)

Hi SN,

It is not uncommon to see increased vertical fusional reserves in long-standing vertical eye muscle dysfunction. One common example is the wet phase of Thyroid Eye Disease as the changes to muscle function happen quite slowly, thus the brain is able to adapt to the increasing deviation. One particular patient I treated as an Orthoptist had over 20 dioptres of vertical fusion range, and I am sure there are other documented examples which are even larger.

I hope this helps.

Simon

-
- **Joy Myint** // [Sep 11, 2007 at 12:13 pm](#)

Hi SN

It's all to do with minor changes in distortion and minor changes in oblique astigmatism.

-
- **Peter Chapman** // [Sep 11, 2007 at 11:45 pm](#)

SN

Hope this isn't too late.

Joy is right. Altering the base curve of a lens alters the lens form. If you remember back to spectacle lens design, lenses are hopefully made to "best form" where optical properties are best. (remember point focal, minimal

tangential errors etc.) However best form doesn't always make a cosmetically acceptable lens, so glazed lenses are often a compromise.

Base curve intolerances are caused by changes to aberrations and errors, for example oblique astigmatism, curvature error. It is generally these errors that the patient cannot tolerate.

Hope this helps

-
- **SN** // [Sep 13, 2007 at 11:13 am](#)

Hiya Peter and Joy

Many thanks for your responses! It didn't come up in CDM's but at least I know now!

Thanks again

-
- **RS** // [Nov 23, 2007 at 1:37 pm](#)

hello!

I am a bit confused about prisms...

When calculating differential prism, using $p=cf$, say for example in the right eye the prism is 4 prism dioptres base up and in the left eye it is 2 prism dioptres up...am I right in saying the differential prism is 2 prism dioptres base up in the right eye?

What happens if it is 4 prism dioptres base up in the right eye and 2 prism dioptres base down in the left eye...will the differential prism be 6 prism dioptres base up or will it still be 2 prism dioptres base up?

-
- **Peter Chapman** // [Nov 24, 2007 at 9:44 am](#)

RS.. When considering the prism problems, think back to splitting prism.

When splitting prism it should be split so out goes with out, in with in, up with down and down with up, to create the desired effect.

Therefore you are right with the first case. Right 4 prism up and Left 2 prism up equates to 2 prism up R eye overall as vertical prism in the same direction "cancels" each other out.

Ask the Examiner

The Final Assessment 2007



With the second case, the resultant prism is 6 prism dioptres vertical overall, as base up and down go together to create maximum prism.

With the terminology, differential prism generally refers to the difference in prism between two lenses. As it is a comparison it is not usual to give differential prism a base direction. However resultant prism should be given a base direction as this indicates which direction the prism remaining occurs at in a particular lens.

I hope this helps

-
- **RS** // [Jan 3, 2008 at 3:34 am](#)

Hello! Happy new year!

I have a question about RGP CL fitting....

If the patient has, say about 2.00 D of corneal astigmatism, and you get a with the rule fluorescein pattern with a spherical trial rgp, would you order a toric rgp even if the patient's VA is fine with the spherical CL?

If I were to order a toric rgp, how would I write the order? Would I have to specify back surface toric or front surface toric on the order?

-
- **SN** // [Jan 4, 2008 at 3:27 am](#)

Hello all,

Just a quick question, If a person with low vision who has not been registered etc wants to be referred for an assessment with the ophthalmologist, do we send a normal letter of REFERRAL to the GP and request this patient be seen for a low vision assessment to get registered??

Many thanks

-
- **Jane Macnaughton** // [Jan 4, 2008 at 4:08 am](#)

Happy New year.

SN:

Under the new system medical and social needs are separated.

Ask the Examiner

The Final Assessment 2007



1. If the Px needs to see the ophthalmologist for medical or surgical assessment then refer through the GP in the usual way (GOS 18 or letterhead).
2. If the Px needs referral for Certification & Registration on the Local PCT / Health Authority Register then refer through to the ophthalmologist in the usual way.
3. Don't forget, registration is mainly for financial assistance – social care will be available regardless of registration. As the patient does not need to be registered to receive an assessment from social services, by using the Low Vision Leaflet, you can highlight the patient's needs to social services in advance of registration. However, don't forget that you will still need to refer the Px via the GP to see the ophthalmologist for Registration as only the ophthalmologist can certify whether severely sight impaired or sight impaired.

Hope that helps,
Jane

-
- **Joy Myint** // [Jan 4, 2008 at 4:38 am](#)

Happy New Year!

RE: RGP Q

If the lens is a good stable fit, albeit with the rule and the VA is good then there is no reason with a 2.00 cyl why you cannot stick with a spherical RGP. If the VA or fit is dodgy then a toric RGP may be indicated.

With regards to a toric lens, you would need to specify FS or BS toric. Think of it this way-in simplified terms where is the astigmatism. Is it corneal, lenticular or both. A RGP lens may correct some/all corneal astigmatism etc etc

-
- **RS** // [Jan 4, 2008 at 11:20 am](#)

Thank you!

-
- **SN** // [Jan 4, 2008 at 1:56 pm](#)

Thank you Jane!

Another quickie but I am not in the practice anymore and was wondering in colour vision testing with Ishihara, how many plates can you get wrong before the colour vision is classed as abnormal?

many thanks for your time

- **Peter Chapman** // [Jan 4, 2008 at 2:32 pm](#)
-

SN... for the 38 plate edition, 13 or less correct answers constitutes a fail, with 17 or more out of the 21 being a pass. 14 - 16 correct answers means the test is inconclusive and retesting by another method should occur.

Remember, there are the abbreviated and concise versions and these will have different pass/fail criteria

Hope this helps

Peter

- **RS** // [Jan 5, 2008 at 7:56 am](#)
-

Hello! I have a question regarding referral....

a px has just recently been diagnosed with diabetes (say about 1 week ago) and has been prescribed medication by the GP. The px presents with diplopia and reduced vision. The optometrist finds an increase in myopia. Would the patient need to be seen by an ophthalmologist? Or a soon referral to GP? I am a bit confused, because the Rx will stabilize and the diplopia would resolve once the diabetes is controlled.

Thank you.

- **Peter Chapman** // [Jan 6, 2008 at 7:52 am](#)
-

To answer this one, i would separate the two symptoms. Lets deal with the myopia first.

In diabetes, it is very common to find changes in refraction whilst the diabetes is unstable and when it is becoming controlled. Therefore, in my opinion i would not prescribe at this stage unless there was a vocational need (for example the patient will not meet the driving standards without specs and uses a car a lot. The patient should then be advised they will probably need to change the lenses again very shortly) and i would review the patient in 1- 2 months.

The diplopia however presents a whole different set of concerns. Management would very much depend on the cause of diplopia. For example, horizontal diplopia caused by a VI nerve palsy would cause me to refer, as would involvement of the IIIrd nerve causing vertical diplopia.

Ask the Examiner

The Final Assessment 2007



If the diplopia was intermittent and presented towards the end of the day and appeared to be caused by a decompensated phoria, then my management may be more conservative and be reviewed again when refracting again in a short space of time.

Therefore it is difficult to comment with the limited information given.

Sometimes there is a right and wrong answer to case scenario's, but likewise sometimes there are grey areas where practitioners will have differing opinions. It is important in the grey areas to consider every potential cause for symptoms, make a clinical decision for the management, and be able to justify with appropriate reasoning why this management option was taken.

Hope this helps
