



# PRESCRIBING SPECTACLES

## THINK

You examine a woman's eyes and find that she has a refractive error. You now need to decide what power spectacles to prescribe, how many pairs of spectacles to prescribe and what type of lens design to prescribe. You also need to think about what the woman's visual needs are and what she wants.

## AIM

This unit will guide you on when and how to prescribe spectacles for a person.

## LEARNING OUTCOMES

When you have worked through this unit you should be able to:


- check your refraction to make sure that it is clear and comfortable for the person
- explain the limitations of the spectacles that you are prescribing
- explain why people with diabetes, women who are pregnant, and people taking some medications may have problems adapting to their new spectacles
- advise people about adapting to their new spectacles
- explain your examination findings to the person in simple language that they can understand
- write a spectacle prescription.

## REVIEW: PRESCRIBING SPECTACLES


<b>CASE HISTORY</b>	<p>A good case history will include:</p> <ul style="list-style-type: none"> <li>• chief complaint (main problem the person has noticed)</li> <li>• vision (distance and near; asthenopia)</li> <li>• eye history (previous eye exams, previous spectacles, previous eye problems)</li> <li>• visual needs</li> <li>• family eye or health problems</li> <li>• general health, medical history (including medications) and allergies.</li> </ul>
<b>REFRACTIVE ERROR</b>	<ul style="list-style-type: none"> <li>• A person who has a refractive error needs to wear spectacles (glasses) or contact lenses, so that they can see clearly and comfortably. This is because their eyes are not the correct size and shape.</li> <li>• There are four main types of refractive error: myopia, hyperopia, astigmatism and presbyopia.</li> <li>• An eye examination that tests for refractive error is called a refraction.</li> </ul>
<b>ASTHENOPIA</b>	<ul style="list-style-type: none"> <li>• Asthenopia is also known as eye strain.</li> <li>• Symptoms of asthenopia include: sore eyes, tired eyes and headaches.</li> <li>• Asthenopia can be caused by many things including uncorrected refractive error and incorrectly prescribed spectacles.</li> </ul>

## REFRACTION CHECK

After you have finished your refraction, you need to double check your results.




<b>ASK THE PERSON</b>	<ul style="list-style-type: none"> <li>• Does your distance (or near) vision look clear with these lenses?</li> <li>• Do your eyes feel comfortable with these lenses?</li> <li>• Do you notice a difference between these lenses and your old spectacles? <ul style="list-style-type: none"> <li>→ Let the person compare their vision with their old spectacles to their vision with the new prescription lenses in the trial frame.</li> <li>→ If the person tells you that their vision is the same (with their old spectacles and with the lenses in the trial frame) you should not prescribe new spectacles for the person – unless they want a new frame or if their lenses are scratched.</li> </ul> </li> </ul> <div>  <p>To check a distance refraction you can ask the person to stand up and look outside the window or the door.</p> <p>To check a near refraction you can ask the person to look at the near visual acuity (VA) chart or something else that they want to see clearly at near.</p> <p>Encourage the person to explore their range of clear vision by moving the near VA chart back and forth.</p> </div>
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## REFRACTION CHECK (cont.)


<b>DISTANCE</b>	<p>If the person tells you that their distance vision is not clear or comfortable you must check your refraction:</p> <ul style="list-style-type: none"> <li>→ First check the sphere <ul style="list-style-type: none"> <li>• Add +0.25 D to both eyes</li> <li>• Add -0.25 D to both eyes (only if this improves the VA!)</li> </ul> </li> <li>→ Then check the cylinder <ul style="list-style-type: none"> <li>• Turn the axis of the cylinder a small amount <ul style="list-style-type: none"> <li>→ towards the axis of their previous spectacles</li> </ul> </li> <li>or</li> <li>→ towards 90° or 180° (whichever is closer)</li> <li>• Decrease the power of the cylinder by 0.25 D or 0.50 D (remember to add -0.25 D sphere for every -0.50 D cyl you take away!)</li> </ul> </li> </ul>
<b>NEAR</b>	<p>If the person tells you that their near vision is not clear or comfortable, you must check your near refraction:</p> <ul style="list-style-type: none"> <li>→ Check the near add <ul style="list-style-type: none"> <li>• Add +0.25 D to both eyes</li> <li>• Add -0.25 D to both eyes.</li> </ul> </li> </ul>
<b>SHOW THE PERSON</b>	<p>Demonstrate how the spectacles improve the person's vision at certain distances but can make it worse for other distances.</p>
<b>EXAMPLE 1</b>	<p>Near spectacles can make objects in the distance look blurry.</p> <p>In this case the person must take their near spectacles off (or change them for their distance spectacles) if they want to see far away.</p> <p>The person might also like to look over the top of their near spectacles if they want their distance vision to be clearer.</p>  <p><i>Figure 23.1: A man wearing look-over reading spectacles. He looks through the near spectacle prescription lenses to read his book and looks over them to see things that are in the distance.</i></p>
<b>EXAMPLE 2</b>	<p>Distance spectacles can make near vision blurry.</p> <p>In this case the person must take their distance spectacles off (or change them for their near spectacles) if they want to see things close to them.</p>

## BEFORE YOU PRESCRIBE

When you take a case history you must remember to ask the person about their general health and any medications they are taking. Some general health problems can affect vision and it is better if the health problem is treated first before you prescribe spectacles.

<b>DIABETES</b>	<p>A person with diabetes (too much sugar in their blood) must have an eye health check before you prescribe spectacles. Diabetes can cause bleeding and permanent damage to the retina – this is called diabetic eye disease or diabetic retinopathy. Diabetic eye disease needs to be treated promptly so that the person does not lose their vision forever.</p> <div data-bbox="470 620 598 728">  </div> <p>A person with diabetes needs an eye health check at least every 12 months.</p>
<b>STEP 2</b>	<p>Some people with diabetes have blood sugar levels that fluctuate (change all the time) – this is especially true for people who have just been diagnosed with diabetes, or people who are not careful in looking after their diet or taking their medication. When there is a large amount of sugar in the blood, the crystalline lens swells (gets thicker) and changes its focusing power – this will change the person's refractive error temporarily. When the amount of sugar in the blood goes back to normal, the lens will also go back to normal and the person's refractive error will change again.</p> <p>If someone has fluctuating blood sugar levels you should ask them to come for an examination on at least three different days and at different times of the day. You can then look at all the refraction results you have measured and prescribe the average of these results. It is even better if the person can come back to you when they have controlled their blood sugar and it is no longer fluctuating.</p> <div data-bbox="470 1258 598 1366">  </div> <p>If a person with diabetes has fluctuating blood sugar, you should measure their refractive error a minimum of three times on three different days.</p> <p>If the refraction is changing a lot each time, you may even ask them to come back for another check on another day.</p> <p>Take the average of all your refractions and use this for the prescription.</p> <p>In the early stages of diabetic eye disease, the person may not notice a problem with their vision – but they should get their eyes checked anyway. Early diabetic eye disease often has no symptoms, but this is the best time for it to be treated.</p> <div data-bbox="470 1673 598 1780">  </div> <p>A person with diabetes may have bleeding at the back of their eye and not know about it. If the person does not have an eye health examination their eye and vision may become permanently damaged.</p> <p>Routine eye health examinations are essential for all people with diabetes.</p>

## BEFORE YOU PRESCRIBE (cont.)

<b>PREGNANCY</b>	<p>When a woman is pregnant the chemicals in her body change. This change in chemicals can affect her eyes and make her refractive error change. Sometimes her refractive error will go back to normal after the baby is born, but sometimes the change is permanent.</p> <p>You should warn pregnant women that they may need to change their spectacles during the course of their pregnancy.</p>
<b>MEDICATIONS</b>	<p>Some drugs (medications) can affect the eye and make a person's refractive error change. These drugs include some anti-depressants and anti-psychotics. Usually the refractive error will stay the same if the dose of the medication stays the same, but if the dose changes or if the person stops taking the medication, the refractive error can also change.</p> <div data-bbox="470 721 1508 1220">  <p>Many people are embarrassed to say that they are taking anti-depressant or anti-psychotic medication.</p> <p>When you take a case history you should reassure the person that the information that they tell you is confidential (secret) and is only to help you give them the best eye examination you can.</p> <p>Sometimes it is helpful to list a few suggestions when you ask someone about their medications. You might say:</p> <p><i>“Do you take any medications for problems such as diabetes, depression or high blood pressure – or any other medications?”</i></p> <p>Let the person know that some medications and health problems affect the eyes, so it is important that they tell you about them.</p> </div> <p>Some medications, like steroids, can cause cataracts. Early cataracts can cause a change in refractive error (the person can become more myopic). This change is usually progressive (it gets worse) and permanent – until the cataracts are removed by simple surgery.</p>

## PRESCRIBING SPECTACLES

Choosing which spectacles to prescribe for a person is as much an art as it is a science. Two people can have the same refractive error but need different types or powers of spectacles.

The spectacles that you choose to prescribe for a person depends on the:

- person's case history
- person's previous spectacles
- person's sensitivity to visual change (this is different for different people)
- amount of refractive error and symptoms
- type of refractive error
- spectacles and lenses available.

### CASE HISTORY



Always tell people that new spectacles take time to get used to. People often feel strange when they first get their new spectacles – this is because their brain is not used to seeing correctly.

You should always tell people to wear their spectacles as much as possible for the first 2 weeks so that they can get used to them more rapidly.

Tell the person that if they still feel bad wearing their spectacles after 2 weeks, they should come back to see you so that you can re-examine their eyes.

Some people are more sensitive than others, and cannot adapt easily to new spectacles or changes in their spectacle prescription.

When you take a case history, the person will tell you what problems they are having. Your main job is to solve the problem that the person is worried about.



The person's chief complaint (the main problem that they tell you about) is the most important thing that you need to talk to the person about after the eye examination.

You need to tell the person what you can do to help them with their problem. This might be prescribing spectacles or, if you cannot solve the problem yourself, you need to tell the person that you are referring them to someone who can help them with this problem.

Listen to what the person says about their vision and their visual needs. This will tell you what sort of spectacles you should prescribe.

During the eye examination you may discover problems that the person did not tell you about in the case history. This may be because the person forgot to tell you, but it may also be because the problem is not important to them. You should discuss these other problems with the person to help you decide what to recommend. If the problem is a refractive error, you can show the person the improvement that you can make to their vision and the person can decide if they want spectacles.

## PRESCRIBING SPECTACLES (cont.)

### EXAMPLE 1

A 40 year old woman comes to you and tells you that she has trouble seeing the small stones when she is sorting rice for dinner. She tells you that her distance vision is good.

You do the following tests:

- VA: R 6/9 (unaided) 6/6 (PH) L 6/9 (unaided) 6/6 (PH)
- Refraction: R +0.75 D (6/6) L +0.75 D (6/6)  
Add +1.00D (N5)

This woman has hyperopia and presbyopia. Her hyperopia is making her distance vision and her near vision blurry, and her presbyopia is making her near vision more blurry.

Using a trial frame you show the woman the improvements that you can make for her:

- Near vision → She tells you that it looks much better.
- Distance vision → She tells you that it looks slightly better, but not a lot.



This woman will be happy if you give her +1.75 D near spectacles to help her see better when doing near tasks.



#### REMEMBER:

*Distance prescription + Near add = Near spectacle prescription*



If you give her distance spectacles as well, she will probably not wear them because she feels that her distance vision is good.

### EXAMPLE 2

A farmer comes to you and tells you that he has trouble seeing his goats in the field. He tells you that when he is close to his goats he has no problems seeing them.

He also tells you that he never learned how to read and that he likes to watch television in his spare time.

You do the following tests:

- VA: R 6/9 (unaided) 6/6 (PH) L 6/9 (unaided) 6/6 (PH)
- Refraction: R +0.75 D (6/6) L +0.75 D (6/6)  
Add +1.00D (N5)

This man has hyperopia and presbyopia. His hyperopia is making his distance vision and his near vision blurry, and his presbyopia is making his near vision more blurry.

Using a trial frame you show the man the improvements that you can make for his:

Near vision → He tells you that it looks much better, but that he cannot read the words on the near VA chart.




Distance vision → He tells you that it looks better, and that objects in the distance are easier to see.



This man will be happy if you give him +0.75 D distance spectacles to help him see his goats.



If you give him near spectacles, he will probably not wear them because he does not have a need to see well at near.

## PRESCRIBING SPECTACLES (cont.)




<b>EXAMPLE 2 (cont.)</b>	<p><b>Look again at the two examples.</b></p> <div data-bbox="470 365 1508 533">  <p>Did you notice that the woman and the man in these examples have the same refraction?</p> <p>Although they have the same refraction they have different visual needs so they are prescribed different spectacles.</p> </div>
<b>PREVIOUS SPECTACLES</b>	<p>If a person has worn spectacles before you must measure their old spectacles so that you know how much the person's prescription has changed. You must also measure the person's VA with their old spectacles so that you know how much improvement your prescription will make.</p> <p><i>Usually:</i></p> <ul style="list-style-type: none"> <li>We do not change the person's prescription if: <ul style="list-style-type: none"> <li>→ the VA improvement is less than one line on the VA chart</li> <li>→ the person prefers the vision they get with their old spectacles compared with the vision they get from the lenses in the trial frame.</li> </ul> </li> <li>If the distance refraction has changed by more than 1.00 D: <ul style="list-style-type: none"> <li>→ we usually only prescribe a maximum of 1.00 D change</li> <li>→ otherwise the new spectacles may be too difficult to adapt to.</li> </ul> </li> </ul> <div data-bbox="470 1081 1508 1261">  <p><b>EXAMPLE:</b>  Your distance refraction for a man is: R -3.50 D      L -4.00D  You measure his old spectacles and find that they are:      R -1.75 D      L -2.25D  You should probably prescribe:      R -2.75 D      L -3.25D</p> </div> <ul style="list-style-type: none"> <li>Reading spectacles usually need to be changed every 2 years.</li> <li>If the near refraction has changed by more than 0.50 D: <ul style="list-style-type: none"> <li>→ we usually only prescribe a maximum of 0.50 D change</li> <li>→ otherwise the new spectacles may be too difficult to adapt to.</li> </ul> </li> </ul> <div data-bbox="470 1485 1508 1720">  <p><b>EXAMPLE:</b>  Your distance refraction for a woman is: R plano      L plano  Her near add is:      Add +1.75 D  You measure her old spectacles and find that they are:      R +1.00 D      L +1.00 D  You should probably prescribe reading spectacles:      R +1.50 D      R +1.50 D</p> </div>



## PRESCRIBING SPECTACLES (cont.)

<p><b>PREVIOUS SPECTACLES (cont.)</b></p>	<ul style="list-style-type: none"> <li>If the person has not worn spectacles before, you should think about prescribing weaker spectacles than their full refractive error correction, especially if their prescription is high. <ul style="list-style-type: none"> <li>→ this will make it easier for them to adapt to their new spectacles</li> <li>→ you can make the spectacles stronger the next time you see them</li> <li>→ but think about the cost of this and how difficult it is for the person to travel to see you again.</li> </ul> </li> </ul> <div data-bbox="470 510 598 616">  </div> <p><b>EXAMPLE:</b>  A woman comes to see you for her first eye examination. She has never worn spectacles before.  Your distance refraction for a woman is:    R +5.50 D    L +6.00D  You should probably prescribe:                R +3.00 D    L +2.50 D</p> <p>You tell the woman to come to see you in 12 months and warn her that she will probably need stronger spectacles then.</p>
<p><b>SENSITIVITY TO CHANGE</b></p>	<p>Different people react differently to changes in their vision.</p> <p>Some people have no difficulty at all adjusting to changes in their vision – even if there is a very big change in their prescription.</p> <p>Other people have sensitive eyes and even small changes in their vision can make them feel sick or dizzy, even if it makes their vision clearer! They might also tell you that things around them look like they are distorted (the wrong shape).</p> <p>These people can take a very long time to get used to their new spectacles. This is because the brain has to learn a new way of seeing things: the brain was used to seeing things the wrong way, now it has to learn to see things the right way.</p> <p>It is hard to know who will react badly to a new pair of spectacles, but testing the prescription in a trial frame before you make the new spectacles is a very good idea.</p> <div data-bbox="470 1214 598 1319">  </div> <p><b>TESTING THE PRESCRIPTION:</b></p> <ul style="list-style-type: none"> <li>Put the lenses that you want to prescribe in the trial frame.</li> <li>For distance spectacles: <ul style="list-style-type: none"> <li>Ask the person to look around the room.  <i>“Do the walls, window and door seem straight?”</i>  <i>“Does the floor seem flat or does it look like it is sloping?”</i></li> <li>Ask the person to walk around the room (wearing the trial frame with the new prescription lenses).  <i>“How do you feel walking?”</i>  <i>“How does everything outside the door look?”</i></li> <li>Ask the person how their eyes feel.  <i>“Do your eyes feel relaxed looking through these lenses, or do they feel uncomfortable?”</i></li> </ul> </li> <li>For near spectacles: <ul style="list-style-type: none"> <li>Ask the person to look at the near VA chart.  <i>“Does the chart look straight and normal, or does it seem to be a strange shape?”</i></li> <li>Ask the person how their eyes feel.  <i>“Do your eyes feel relaxed looking through these lenses, or do they feel uncomfortable?”</i></li> </ul> </li> </ul> <p>If the person tells you that their vision does not seem normal or that their eyes are not comfortable, you will need to adjust the prescription.</p>

## PRESCRIBING SPECTACLES (cont.)

<p><b>SENSITIVITY TO CHANGE (cont.)</b></p>	<p>Before you give a person new spectacles <b>you should tell them:</b></p> <ul style="list-style-type: none"> <li>• “Your spectacles might make you feel strange or uncomfortable for the first 2 weeks, this is because your eyes need to get used to them.”</li> <li>• “Try to wear your new spectacles as much as possible during these first 2 weeks – this will help you get used to them.”</li> <li>• “If you still feel uncomfortable wearing your spectacles after 2 weeks, you should come back to see me.”</li> </ul> <div data-bbox="395 524 1513 913">  <p>You can tell the person that:</p> <ul style="list-style-type: none"> <li>→ Some people get used to their new spectacles more quickly than other people.</li> <li>→ This is because some people have more sensitive eyes than other people.</li> <li>→ It is hard to know whether a person has sensitive eyes or not until they try their new prescription.</li> </ul> <p>This way, you are being honest with the person and the person will understand if they have problems adjusting.</p> </div> <p><b>After 2 Weeks:</b></p> <p>If the person comes back to you after 2 weeks and says that they are still having problems getting used to their spectacles, there may be several reasons:</p> <ul style="list-style-type: none"> <li>• Your refraction may be incorrect <ul style="list-style-type: none"> <li>→ Recheck your refraction.</li> </ul> </li> <li>• The spectacles may have been made incorrectly <ul style="list-style-type: none"> <li>→ Measure the power and optical centres (interpupillary distance [PD]) of the spectacle lenses again (this should always be done before dispensing spectacles).</li> </ul> </li> <li>• The person may have sensitive eyes and may be having too much trouble adapting to the full new prescription <ul style="list-style-type: none"> <li>→ Change your prescription (this usually means prescribing less power) and remake the spectacles.</li> </ul> </li> </ul> <div data-bbox="395 1415 1513 1608">  <p>If you have to change the prescription of the spectacles the person’s VA will probably get worse.</p> <p>This compromise might be the only option. You may like to discuss this with the person so they understand. They may notice that their vision is not as clear with the re-made spectacles.</p> </div>
<p><b>AMOUNT OF REFRACTIVE ERROR AND SYMPTOMS</b></p>	<p><b>Small Amounts of Refractive Error:</b></p> <p>People who have a small amount of refractive error are often happy to be without spectacles.</p> <p><i>Generally:</i></p> <p>If the hyperopia, myopia or astigmatism is less than 0.75 D, the person may not notice any problems with their vision and will probably not need spectacles.</p> <p>If the person tells you that they have no trouble seeing, and their vision is better than 6/12, they probably do not need spectacles.</p> <div data-bbox="395 1886 1513 2033">  <p>It is very common for young hyperopes to see clearly and comfortably at all distances.</p> <p>This is because young people have a lot of accommodation that they can use to compensate for their hyperopia and make their vision clear.</p> </div>

## PRESCRIBING SPECTACLES (cont.)

### AMOUNT OF REFRACTIVE ERROR AND SYMPTOMS (cont.)

#### Large Amounts of Refractive Error:

People who have a large amount of refractive error will usually need spectacles prescribed for them.

If one eye has more refractive error than the other, you must be careful. Sometimes wearing spectacles which have a different prescription for each eye can make a person uncomfortable. This is because different powered lenses make things look different sizes. A high powered plus lens will make things look larger and a high powered minus lens will make things look smaller. If the two eyes see images that are different sizes it will cause asthenopia (eye strain).

#### Generally:

If there is more than 2.00 D difference between the right and left eyes, you should change the prescription so that there is less difference between the lenses you prescribe. An exception to this is when the person has worn spectacles before and is used to this difference between their two eyes.

#### Example:

You refract a man and find that his refractive error is: R +5.00 D L +2.00 D. He has not worn spectacles before.

You put these lenses in a trial frame and ask the man to walk around with the trial frame – you ask him to look at the walls and floor of the room, and outside the window.

The man tells you that he feels a bit dizzy and sick wearing these lenses.

You could prescribe R +3.00 D, L +2.00 D and the man should feel more comfortable with the prescription.

Tell the man that it might take 2 weeks for him to get used to his spectacles, but also tell him that he should come back to you if he is still having problems after 2 weeks.



Remember to tell people that it will take a few weeks to get used to their new spectacles – especially if they have a high prescription or a large change from their previous spectacles.

Tell the person to wear their spectacles as much as possible in the first few weeks so that their eyes can get used to the spectacles. Tell them to return to you after 2 weeks if they still feel uncomfortable.

#### Symptoms:




Sometimes a person with a small amount of uncorrected refractive error will have symptoms of asthenopia (eye strain). This can happen because the eye needs to accommodate too much to compensate for the refractive error. This is especially common for younger people with small amounts of hyperopia or astigmatism who have active accommodation.





It is more common for smaller amounts of refractive error to cause asthenopia (eye strain) than larger amounts of refractive error.

This is because small amounts of refractive error (hyperopia and astigmatism) can be compensated for with accommodation. When accommodation is used too much the ciliary muscle gets tired and causes asthenopic symptoms (sore, tired eyes or headaches).

## PRESCRIBING SPECTACLES (cont.)

<b>AMOUNT OF REFRACTIVE ERROR AND SYMPTOMS (cont.)</b>	<p>Large amounts of refractive error are usually too hard for the person to compensate for</p> <ul style="list-style-type: none"> <li>– they do not even try to use their accommodation because it does not make much difference. People with large amounts of refractive error will tell you that their vision is blurry, but they do not usually complain of sore or tired eyes.</li> </ul> <div data-bbox="470 443 1508 629">  <p>If a person has a refractive error that is symptomatic, they should be prescribed spectacles.</p> <p>Symptoms of refractive error include:</p> <ul style="list-style-type: none"> <li>– blurry vision, and/or</li> <li>– asthenopia.</li> </ul> </div>
<b>TYPE OF REFRACTIVE ERROR</b>	<p>A person with astigmatism will probably have more trouble getting used to their spectacles than a person with a spherical refractive error (hyperopia, myopia or presbyopia). This is especially true if the axis of the astigmatism is not at 90° or 180°.</p> <div data-bbox="470 831 1508 1167">  <p>For astigmatic prescriptions you may need to:</p> <ul style="list-style-type: none"> <li>– reduce the amount of cylinder that you give a person (remember to change the amount of sphere by 0.25 D for every 0.50 D change of cyl that you make!)</li> <li>– change the axis of the cylinder by a small amount <ul style="list-style-type: none"> <li>→ towards 90° or 180° (whichever is closest), <i>or</i></li> <li>→ towards the axis of the cylinder that the person was wearing in their old spectacles.</li> </ul> </li> </ul> </div>
<b>AVAILABILITY OF LENSES AND SPECTACLE FRAMES</b>	<p>If possible, and where appropriate, you should offer readymade spectacles as an option, especially for presbyopes who only need near vision spectacles:</p> <p>→ Made-to-order spectacles (that are tailor-made for the person) are more expensive than readymade spectacles (that can be bought immediately).</p> <p><i>Generally:</i></p> <p>Readymade spectacles will be fine to use if:</p> <ul style="list-style-type: none"> <li>• there is less than 1.00 D spherical difference between the two eyes</li> <li>• there is less than 1.00 D of astigmatism in either eye</li> <li>• the person's PD is appropriate for the size of the readymade spectacles available</li> <li>• the person's vision feels comfortable when they wear the readymade spectacles.</li> </ul> <div data-bbox="470 1704 1508 1861">  <p>Even if the person's prescription is not within these guidelines, readymade may still be fine to use In some circumstances.</p> <p>The best test is to let the person try the readymade spectacles on and decide for themselves – it is their vision and their money!</p> </div>

## EXPLANATION OF EXAMINATION RESULTS

<p><b>EXPLANATION OF EXAMINATION RESULTS</b></p>	<p>When you have finished your eye examination, you need to tell the person:</p> <ul style="list-style-type: none"> <li>• what you found</li> <li>• what you can do for them.</li> </ul> <div data-bbox="432 416 1506 714">  <p>Use simple language when you explain eye problems to people. If you use technical terms the person will be confused.</p> <p><b>Example:</b> Instead of telling a person that they have <i>“myopia which results in distance blur unless it is corrected with minus spheres”</i></p> <p>You can tell them that they have <i>“a distance vision problem that makes it hard to see far away – but that can be easily fixed with distance glasses”.</i></p> </div> <p>Your explanation should include:</p> <ul style="list-style-type: none"> <li>• A simple explanation of the person’s eye problems (including their chief complaint): <ul style="list-style-type: none"> <li>- cause of the problem</li> <li>- how it can be treated</li> <li>- what might happen in the future (including changes in vision caused by changes in refractive error).</li> </ul> </li> <li>• An explanation of the spectacles that you prescribe for them: <ul style="list-style-type: none"> <li>- when to wear the spectacles</li> <li>- when not to wear the spectacles</li> <li>- how to look after their spectacles</li> <li>- reassurance that the spectacles will not make their eyes worse.</li> </ul> </li> <li>• When the person should come back to you for another eye examination: <ul style="list-style-type: none"> <li>- if the person has a problem getting used to their spectacles they should come back to see you so you can check their prescription</li> <li>- if the person has any eye problems including vision changes or sore eyes</li> <li>- a routine eye examination is recommended at least every 2 to 3 years.</li> </ul> </li> </ul>
<p><b>WILL SPECTACLES MAKE MY EYES WORSE?</b></p>	<p>Many people think that wearing spectacles will make their eyes get worse. This is not true.</p> <p>People usually say this because about 2 years after a new presbyope gets their first pair of reading spectacles their vision changes and they need a new, stronger pair of spectacles.</p> <p>This is not because the spectacles made their eyes worse, but because the crystalline lens inside their eye is getting harder. This is a natural process which would happen even if the person was not wearing spectacles.</p> <div data-bbox="432 1655 1506 2011">  <p>You can tell people this story of two twins who have the same vision problem:</p> <p>If you give the first twin spectacles to read with, but not the second twin, their eyes will keep changing by the same amount.</p> <p>If the twins come back to you in 2 years time, the first twin may need stronger spectacles to see clearly.</p> <p>If you measure the refractive error of the second twin you will find that he still has the same refractive error as his brother.</p> <p>Both twins will need the same stronger power of spectacles to see clearly.</p> </div>

## WRITING A SPECTACLE PRESCRIPTION

If you recommend that a person needs to wear spectacles, you need to write their spectacle prescription. You may have a printed form that you can fill in, or you may just use a piece of paper with your letterhead on it.

Sometimes people choose to have their eyes examined by you, but they want their spectacles to be made by someone else – maybe they have seen a frame that they like in another clinic. When this happens you must give them a copy of their spectacle prescription.

### PRESCRIPTION INFORMATION



If a person takes their spectacle prescription to be made at another clinic or optical shop, it may be a good idea to remind the person that you cannot be sure that their spectacles will be made correctly by that clinic or shop.

The person must understand this, but in the end it is their own choice where to buy their spectacles, and you must be helpful and professional.

A prescription must include:

- name of your clinic, hospital or optical shop (this can also be the letterhead)
- date of the eye examination
- name of the person who you have examined
- distance prescription for right and left eyes
- reading addition (if needed)
- PD (distance PD / near PD)
- type of spectacles recommended (*Example*: Distance spectacles)
- your name and signature
- prescription expiry date (usually 2 years after refraction date).

Example:

**Mountain Vision Centre**  
**Top Health Clinic, Mountain Town**

3 August 2008

Mrs Flower Garden

R -4.00      L -3.50      Add +2.25      PD 67/63

Near spectacles and bifocal spectacles.



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Exp 3/8/2010

## SUMMARY: PRESCRIBING SPECTACLES

### REFRACTION CHECK

When you have finished your refraction, you need to double check your results.

#### Ask the person

- Is your vision (distance/near) clear?
- Are your eyes comfortable?
- Do you see a difference between these lenses and your old spectacles?
  - If the person tells you that there is no difference (or that their spectacles are better), you do not need to prescribe new spectacles for the person.
- If distance vision is not clear:
  - check the sphere
  - check the cylinder.
- If near vision is not clear:
  - check the add.

#### Show the person:

- Demonstrate the limitations of the new spectacles
  - perhaps distance vision is clear but near vision is blurry; perhaps near vision is clear but distance vision is blurry.

### BEFORE YOU PRESCRIBE

#### Diabetes:

- People with diabetes must have an eye health check before they have a refraction.
- A diabetic person needs an eye health check at least every 12 months.
- Refractive error can change daily in a person with diabetes who has uncontrolled blood sugar levels
  - you must recheck their refraction on different days.

#### Pregnancy:

- Chemicals in the body of a pregnant woman can cause her refractive error to change.
- Sometimes this change is permanent, but sometimes the refractive error goes back to normal after the baby is born.

#### Medications:

- Some drugs (like anti-depressants and anti-psychotics) can change the eye's refractive error. This is usually dependant on the dose – if the dose changes, the refractive error usually changes too.
- Some drugs (like steroids) can cause cataracts. Early cataracts can change a person's refractive error. This is usually progressive and the vision will slowly get worse until the person has a cataract operation.

### PRESCRIBING SPECTACLES

- Deciding what to prescribe can be considered an art – it depends on many things and is not the same for every person
  - Two people can have the same refractive error, but need different spectacle prescriptions.
- Always tell the person that new spectacles can take some time to get used to
  - Allow 2 weeks for adaption.
  - Tell the person to come back after 2 weeks if they are still having difficulties with their new spectacles.



## SUMMARY: PRESCRIBING SPECTACLES (cont.)

**Your prescribing decision will depend on the person's:**

**Case History:**

- Listen to and address the person's chief complaint.
- Understand the person's visual needs.

**Previous Spectacles:**

- Compare the difference between your refraction and the person's old spectacles.
- Do not change the person's prescription if:
  - there is less than one line VA improvement.
  - the person prefers their old spectacles to the new lenses.
- Reduce the spectacle power you prescribe if:
  - the distance refraction has changed by more than 1.00 D.
  - the reading refraction has changed by more than 0.50 D.
- Reading spectacles usually only need changing every 2 years.
- If the person has not worn spectacles before, consider giving them a weaker prescription.
- All these rules are flexible and you can make exceptions if you are careful.

**Sensitivity to Change:**

- Some people easily adapt to changes in their vision.
- Other people have a lot of difficulty getting used to their new spectacles
  - they may feel sick or dizzy or things might look distorted.
- You should always test the prescription in a trial frame before prescribing:
  - encourage the person to move around and look at different things.
  - if the person is uncomfortable with these lenses you may need to change the prescription.
- Always warn the person that their spectacles will take a few weeks to adjust to. Tell the person that some people take longer than other people to adapt to new spectacles, because they have sensitive eyes.
- If you have to change or reduce the prescription of the spectacles, the VA will probably not be as good as the best corrected visual acuity with the full spectacle prescription.

**Amount of Refractive Error and Symptoms:**

- People who have only a small amount of refractive error may not need spectacles.
- If a person has a high refractive error in one eye compared with the other eye, they may need their prescription adjusted.
- Prescribe spectacles for people with symptomatic refractive error (large or small).

**Type of Refractive Error:**

- People with astigmatism (especially if the axis is not at 90° or 180°) will have more difficulty adjusting to a new prescription.

**Availability of Lenses and Spectacle Frames:**

- Prescribe readymade spectacles when appropriate.



## SUMMARY: PRESCRIBING SPECTACLES (cont.)

### EXPLANATION OF EXAMINATION

- At the end of the eye examination explain:
  - what you found
  - what you can do to help.
- Use simple language.
- Your explanation should include:
  - A simple explanation of the person's problem (including the chief complaint, cause of the problem, treatment options and future expectations).
  - A simple explanation of the spectacles that you are prescribing (use, care, and reassurance).
  - When the person should return for another eye examination.
- Spectacles will not make the person's eyes get worse
  - although the person's refractive error may change naturally.

### WRITING A SPECTACLE PRESCRIPTION

A spectacle prescription should include:

- Letterhead or name of your clinic / hospital / optical shop
- Date of the eye examination
- Name of the person
- Distance prescription for both eyes
- Add
- Type(s) of spectacles recommended
- Your name and signature
- Prescription expiry date.

## TEST YOURSELF QUESTIONS

1. What are some questions that you can ask a person to make sure that spectacles you want to prescribe for them give clear and comfortable vision?

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2. Why must you be careful when prescribing spectacles for the following people, and what can you do to make sure you prescribe the best spectacle prescription for them?

a) A person with diabetes:

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b) A pregnant woman:

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c) A man who is taking anti-psychotic medication:

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3. What should you tell a person about getting used to their new spectacles?

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4. Why should you always remember to give the person an answer to their chief complaint?

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5. You do a distance refraction for a person and find: R -2.00 D L -1.75 D  
You measure their previous distance spectacles: R -0.75 D L -0.50 D  
What should you prescribe?

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6. A woman comes to you and tells you that she has difficulty sewing, but that her distance vision is good.

Your refraction: R -1.25 L -1.00 Add +3.00

What should you prescribe?

Distance:

Near:

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