Orthokeratology
Q&A responses by Josie Barlow, Menicon

1 Can Ortho K be used during the day only?
No, ortho K lenses worn for refractive correction and MM should only be worn overnight.

2 Do patients have to remove lenses for a period of time before an eye exam?
No, eye exams should be scheduled to coincide with new lens collection at the appropriate time for the eye exam and should be carried out at the same time of the day if possible, rule of thumb is that any refraction without lens in situ of up to -0.50 would mean no change in refraction.

3 How long does it take before the lenses give the required vision?
This depends on the manufacturer's guidelines and the amount of refraction you are correcting, for Menicon Ltd we suggest that you should have reached the endpoint or close to by 3 weeks of wear.

4 How long will vision remain corrected throughout the day?
Vision should remain stable throughout the entire day.

5 How long would you expect a full fitting process to take, to get a patient to their maximum treatment?
See Q3.

6 Would having a couple days not wearing your Ortho K lenses affected the patient's vision? i.e. child going away for camp.
Yes, for optimal results the lenses should be worn every night, any break in this routine will allow for the cornea to begin to return to its pre-treatment state and the effect will be reduced.

7 How long after stopping Ortho K is it recommended a spectacle Rx can be issued for dispensing spectacles?
This depends on the length of time the ortho K lenses have been worn and can be anywhere between 3 weeks and longer, please also see Q3.

8 Approximately, how long would it take to correct say -3.00 to plano?
Rule of thumb is you should be able to correct around a third of the refractive error on the first night of wear and then get to the endpoint within the manufacturer's suggested timeline, other factors may have an influence on this though.

9 If a child wears lens from 10 years old to 25 years old and then stops will they then revert to their myopic correction?
If the patient was -3.00 to start and did not progress for 15years and then stopped wearing Ortho K they would still be a -3.00 give or take, we are correcting their refraction not removing it.

10 Is there a rebound affect if you stop wearing them?
For MM yes there is but this is also true for other modalities of MM treatment.

11 What age could children start wearing them and are there more risks compared to daily disposable myopia control lenses?
This depends on the child, parents and clinician but children as young a 5 and 6 have been successfully fitted. The available literature advise that risk of MK incidence is similar to that associated with daily with that associated with daily wear soft lenses.

12 What is the minimum age would you consider for Ortho K?
See Q11.

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13 Will the px need more regular change of their spectacle lens Rx during the process?
Initially you may need to give soft lenses or ask the patient to use old spectacles with a lower Rx until they have reached the endpoint which should be around 3 weeks, speak to your manufactures Menicon Ltd are happy to supply FOC DD trials to help with this interim period.

14 What is the time limit for good results for the likes of a 1.5ds rx?
See Q8.

15 Is it possible to fit this lens without a topography but use anterior OCT like a scleral lens?
I am afraid not.

16 Might not be the right arena for this question, but since the result from night lenses is similar to that created by laser correction, is there any research into laser surgery & myopia progression? (Presumably in young adults)
You are correct that ortho k is a substitute for refractive surgery when we are talking about non progressive myopia usually in adults, I do not know of any literature that has looked into post-surgery patients that have continued to progress.

17 We see a high incidence of sterile peripheral ulcers with extended wear soft lenses, how does this compare with night lenses?
The incidence of adverse events is documented as being low in this modality of lens wear please see Q11.

18 What is a CNC lathe?
Computerised Numerical Control lathe.

19 Would this thinning of the layer pose risk in terms of damage penetrating the epithelial layer into the stroma more easily?
Thinning of the epithelial layer is minimal to produce the desired results of ortho K I do not believe I have seen any reported incidence of penetrating injuries with ortho k wear.

20 Does the reverse curve ever differ based on prescription and how much refractive change is needed to take place?
Yes, it can be influenced based on lens design refractive correction.

21 How can you tell whether you have the preferred fluorescein layer, or actual touch?
Touch would cause staining on the cornea after lens removal in a localised central area.

22 In terms of the build in, is it a slight hyperopic build in?
All ortho K lenses use a compression factor this can be in the form of a hyperopic power.

23 You mentioned about Ortho K for hyperopes, do they work?
I did and there is not much literature on the subject, but it appears to.

24 Also, Ortho K for presbyopes, do you suggest it?
Yes you can fit emerging presbyopes with ortho k in a monovision way currently, I am sure the a MF correction is on its way.

25 Combined therapy with Ortho K and spectacles is there a benefit to this?
There is literature to support combining the two on those high myopes where full correction using Ortho K is not possible.

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26 How often should you see your Ortho K pxs?
Initially the appointments are frequent, after night one, after a week, after 3 weeks, 3 months, 6 months you could then go to annual, but we prefer to suggest 6 monthly as that is our preferred lens replacement schedule.

27 Does the corneal curvature begin to revert to its pre-Ortho K state during each day?
There is some regression over the day, but this is normally manged with the lens parameters so fully function vision is maintained.

28 Can Ortho K lenses correct astigmatism?
As long as the astigmatism is corneal then yes this is possible, check with your manufacturer about the limits as they may vary.

29 Is Ortho-K suitable for both refractive and axial myopia? Does one favour the other for good results?
Ortho K has been shown to be one of the better modalities to slow both refractive and axial progression, but each individual responds differently, axial length changes are the only way to determine if ortho K is working.

30 Do you have a rough figure of the success of Ortho-K in MM
This falls in line with the other data we have where if looking a the data as a whole all current on label MM treatments have an efficacy of 50%

31 Does Ortho-K retain benefits of reduced myopia if treatment is stopped?
Only when he patient has stopped progressing.

32 How prevalent is the use of Ortho-K for myopia management in the UK? It does not seem to be a mainstream option.
This is a modality that is growing and there a significant number of practitioners offering ortho k for refractive correct ion and MM.

33 In Monday's conference we discussed any rebound effects on reducing myopia progression if a PX stops using spectacles, or soft contact lenses. Is there a rebound effect with Ortho K?
See Q10.

34 With myopia management with Ortho K regarding rebound how would you manage this as the Rx will a merge after lenses have been removed? How will you know what affect the myopia management has had?
If stopping wear before the Rx is stable and there is still progression there will be a rebound affect see Q10, MM management should be continued in one form or another until the refraction is stable, The only way to monitor and check that ortho K is working as a MM treatment is to carry our biometry before and during the treatment process.

35 Is there a minimum amount of hours per night?
We would suggest a minimum of 6 hours.