

TREATMENT OF PRESBYOPES (PSYCOLOGICAL AND OPTICAL CONSIDERATION)**Ronald N. E.*¹ and Okonkwo C. I.²**¹Optometrists and Dispensing Opticians Registration Board of Nigeria (ODORBN) Yaba, Lagos.²Department of Ophthalmology, Ebonyi State University Teaching Hospital Abakaliki, Ebonyi State.***Corresponding Author: Ronald N. E.**

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ABSTRACT

This article highlights some psychological and physiological factors that may be considered in explaining presbyopia to a presbyope. It also reviews selected optical and clinical factors relevant to the clinician's determination of presbyope's prescription.

KEYWORDS: Presbyopia, Presbyope.**INTRODUCTION**

When the focusing ability of an individual's eyes has decreased to the point where vision at his reading distance becomes blurry and difficult, the condition is known as Presbyopia.

Optometrists have always had a unique problem: explaining Presbyopia to a person who needs his first pair of bifocals. We have recognized this problem, but because the explanation the patient deserves had to refer to the aging process, we were frustrated. For some time now we have considered it our problem alone, because other professions did not have to explain such an obvious aging indicator as presbyopia so early in life.

Certainly the onset of presbyopia will not by itself shake any foundations, but when it arrives during an emotionally vulnerable time it does cause a reaction. This presbyopic event and its relationship to patient's development stage is becoming increasingly understandable. We now appreciate that the early presbyope is undergoing a self-evaluation. Some of our patients at this age have begun to realize that they will not achieve their life-long goals: their dreams have not materialized. Others who have reached their projected level of success are disappointed because it is not what they had anticipated.

Few people pass through this mid-life transition period exactly as they entered. Some personality change is inevitable, at the same time, a person perceives the physiological changes taking place within himself. It is difficult to separate the motives of those striving to stay fit in order to prolong life from those whose desire is to appear young. It is likely that it is a combination, with everyone sharing both reactions.

We must remember that it is during this process of self-evaluation, and often doubt, that the eye doctor diagnoses presbyopia. The sensitivity of the doctor to the entire person, not just his eyes, is essential. The doctor must explain to the patient that the diminished accommodative amplitude is not something that has occurred lately, but is rather part of changes that started at birth. The doctor must realize that many patients identify bifocals with an expanded waistline or thinning hair as another obvious indicator of getting old, one that advertises to the world one's diminished senses.

Fortunately things are changing. Many professionals are becoming more aware of behavioural patterns at all ages. We now see the reemergence of older persons as useful participants in life. Along with all this is a better acceptance of the physiological changes and the obvious signs that are a part of this aging process. Concurrent with these new attitudes are such scientific contributions as a wider variety of invisible bifocals, intraocular lens implants, and long term wear of contact lenses.

PRESCRIBING NEAR CORRECTION

The functional onset and progression of presbyopia are unique for each patient and depend wholly upon his visual requirements and physiology.

For habitual distance correction wearers, the multifocal is the obvious solution to presbyopia. Patients who have not previously worn distance corrections, however, often resist the multifocal solution. For them, single vision reading glasses and half-eyes frequently prove more satisfactory.

The low-to-moderate myopes also characteristically resist the multifocal. They find removal of their distance glasses, or sliding them down their nose, to be a more

satisfactory solution. Ultimately, however, with a refractive shift toward hyperopia and /or confronted with forever searching for misplaced glasses, the majority finally use the multi-focal as their solution, begrudgingly.

The appropriate add for a given patient depends upon:

- (1) The range of distances in which his near activities are performed.
- (2) The time intervals devoted to these activities.
- (3) The visual criticalness of these activities.
- (4) The available amplitude of accommodation. In addition factors such as ambient illumination, the patient's height and build, the near-vision posture, and the tools or instruments used, must be considered in the determination of add power.

The most commonly practiced method of determining the add has the patient wearing his distance correction. With a reading card held at a distance and orientation relevant to this patient's most critical near-point needs the amount of plus power necessary to clear the target is determined in the spectacle plane. An attempt is made to have the range of clear vision longitudinally bracket the target.

To better ensure the long-term efficacy of the add, clinical practice dictates that the add be such that at least one-half of the patient's amplitude of accommodation remains unused-held in reserve when viewing the near-point. Extended, critical near-point activities may justify as much as two-thirds being held in reserve.

Table below is a listing of some commonly encountered occupation and their associated typical working ranges.

Working range for various occupation.

Occupation	Working Range	Occupation	Working Range
House Wife	16-34 inches	Librarian	14-36 inches
Secretary	16-26	Surgeon	14-24
Accountant	16-28	Pharmacist	18-34
Dentist	10-24	TV Repairman	10-20
Artist	16-24 inches	Plumber	12-26 inches
Barber	14-18	Gas Station Attendant	18-36
Butcher	24-28	Desk Workers	16-36
Carpenter	16-26	Arc Welder	14-22
Sales Clerk	18-24		
Watch Maker	6-14		
Architect	12-30		

Now consider prescribing an add for barber who has 3.00 diopters of accommodative amplitude. If we wish to hold two-thirds in reserve, the nominal add indicated for 16" would be 2.50 D minus 1.00 D (one-third of 3.00 D of amplitude or 1.50 D).

This table is deceptively simple since, as the clinician knows, criticalness of visual demand varies significantly among occupations. It does not necessarily follow that similar adds are appropriate for similar ranges.

A patient may change his work or acquire new interest which necessitate a near correction for the new working distance. If it is not possible or convenient to make the necessary measurements, the new add can be estimated by determining the dioptric differences between the new and original working distance.

Assume that a 2.00 D add has been satisfactory for 16 inches and that the patient now required a new correction for near work at 10 inches the dioptric difference between 10 inches (4.00 D) and 16 inches (2.50 D) is 1.50 D. It follows that an additional 1.50 D add is required and, therefore, the new add is 3.500 D (2.00 + 1.50). This procedure assures the use of the same amount of accommodation with both the original and new correction. When finalizing the add, the clinician

usually has the latitude to prescribe "somewhat more or less" add. Ignoring the cynical view that "less" will bring back the patient sooner, there may be several compelling reasons to prescribe less add, especially for the first time multifocal wearer.

Unlike accommodative insufficiency, presbyopic loss of accommodation is associated with exophoria, indicating lesser innervative ciliary effort. In the presence of a large plus increment and increased dissociated and /or associated exophoria, if compensatory fusional vergences are inadequate, then, ultimately, debilitating asthenopia, or intermittent diplopia, may be the consequence. In such cases, small, gradual incrementation of add, fostering easier adaptation, is advisable.

Each of us, on occasions, have heard the reading add referred to as a "crutch" which accelerates the depletion of the accommodative faculty. While this attribution may be physiologically inaccurate, the experience of many patients, including my own, would suggest the contrary. When a patient is changed from single vision distance correction to a long postponed bifocal without a distance change. He may report the following without appreciating the intrinsic paradox.

He has difficulty now in seeing clearly at intermediate distances.

When reverting temporarily to his single vision spectacles, reading is much more difficult than it was just days earlier with the same glasses.

An abrupt depletion of accommodative amplitude would explain these experiences, however, such a rationale is unlikely. The mechanism is unclear but it would appear as though the add makes one less inclined to exert the effort. Perhaps this is reason for conservative application of add.

CONCLUSION

As in the management of any patient, management of the presbyope entails the clinician's attention to physiological, optical, cosmetic and mechanical factors. Left unaddressed in this article is the consideration of image quality which varies with lens construction, dioptric power and manner of finishing. Rather, factors having more immediate impact on the patient were reviewed.

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