MICROTROPIA
ICD-9-CM: 378.34

DEFINITION:
Microtropia (a.k.a. monofixation syndrome) is a sensory and neuromuscular anomaly characterized by a very small angle strabismus (usually a constant esotropia), occasionally low grade amblyopia, and often anomalous retinal correspondence. The esotropia may be concealed by small angle eccentric fixation in the deviating eye which is equal in direction and magnitude to the deviation. Any deviation greater than 1° is considered a strabismus; less is considered a fixation disparity. Small angles can be considered up to 8°.

SIGNS AND SYMPTOMS:
The symptoms and signs associated with microtropia may include, but are not limited to, the following:

- Transient blurred vision (ICD: 368.12)
- Difficulty visually tracking and/or following objects
- Loss of place, repetition, and/or omission of words and/or lines of print while reading
- Need to utilize a marker to avoid loss of place
- Frequent transpositions when copying from one source document to another
- Diminished accuracy with increased time on task
- Abnormal postural adaptation/abnormal working distance (ICD: 781.9)
- Inaccurate/inconsistent work product
- Reduced efficiency and productivity
- Photophobia
- Inaccurate/inconsistent depth judgement
- Spatial disorientation
- Asthenopia (ICD: 368.13)
- Orbital pain (ICD: 379.91)
- Headaches (ICD: 784.0)
- Inaccurate/inconsistent visual attention/concentration and/or awareness
- Increased distractibility
- Difficulty sustaining near visual function
- Abnormal general fatigue
- Dizziness/vertigo; especially during/after sustained visually-demanding tasks (ICD: 780.4780.4)
- Motion sickness (ICD: 994.6)
- Dysthymia
- Incoordination/clumsiness (ICD: 781.3)
- Inaccurate eye-hand coordination

DIAGNOSTIC FACTORS:
Microtropia is characterized by one or more of the following diagnostic findings:

- Small angle strabismus, often elusive of cover tests
- Low grade amblyopia
- Anomalous retinal correspondence
- By history: differentiate primary versus secondary
- Unsteady foveal or eccentric fixation
- Foveal suppression

THERAPEUTIC MANAGEMENT CONSIDERATIONS:
The doctor of optometry determines appropriate diagnostic and therapeutic modalities, and frequency of evaluation and follow-up, based on the urgency and nature of the patient’s conditions and unique needs. The management of the case and duration of treatment would be affected by:

- The severity of symptoms and diagnostic factors including onset and duration of the problem
- The implications of associated visual conditions
- Implications of patient’s general health and effects of medications taken
- Etiological factors
- Extent of visual demands placed upon the individual
- Patient compliance and involvement in the prescribed therapy regimen
- Type, scope, and results of prior interventions
PRESCRIBED TREATMENT REGIMEN:
Successful treatment of microtropia must address the defective performance of the amblyopic visual system and the accompanying strabismus and associated conditions. Orthoptics/vision therapy (including prism/lens therapy) is usually required to achieve maximum improvement in patients with microtropia. Optometric orthoptics/vision therapy usually incorporates the prescription of specific treatments in order to:

- Provide a clear optical image
- Normalize and equalize fixation accuracy
- Normalize and equalize oculomotor control
- Normalize and equalize accommodative accuracy and responses
- Normalize visual discrimination
- Normalize spatial judgments and visual information processing
- Eliminate abnormal suppression
- Reestablish normal retinal correspondence
- Eliminate the strabismus and associated conditions
- It may be necessary to accept a small angle strabismus with very low grade amblyopia and anomalous correspondence, in which case, enhancement of binocular function is possible with the following goals: 1) enhance vergence and accommodative responses, 2) develop and/or enhance stereoscopic responses, 3) integrate binocular skills with accurate motor responses, 4) Integrate ocular motor skills with other sensory skills (vestibular, kinesthetic, tactile, and auditory), 5) increase biocular endurance and stamina, and 6) integrate visual skills with higher level information processing.

DURATION OF TREATMENT:
The following treatment ranges are provided as a guide for third-party claims processing and review purposes. Treatment duration will depend upon the particular patient’s condition and associated circumstances. When duration of treatment beyond these ranges is required, documentation of the medical necessity for additional treatment services may be warranted.

- The most commonly encountered microtropia case usually requires 36-48 hours of office therapy.
- The rare, uncomplicated, cases of microtropia that are associated with an infrequent strabismus and no associated conditions may require 24 to 32 hours of office therapy.

FOLLOW-UP CARE:
At the conclusion of the active treatment regimen, periodic follow-up evaluation should be provided at appropriate intervals. Therapeutic lenses may be prescribed during or at the conclusion of active vision therapy for the maintenance of long-term stability. Some cases may require additional therapy due to decompensation.