Finding The Retinal Hole:
Lincoff’s Rules

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Lincoff’s Rules

A method of predicting the location of retinal holes has been formulated.

It is based on the fact that the development of subretinal fluid, following the occurrence of a retinal tear, is governed by a limited number of anatomical factors and gravity.

As a result, detachments form in a predictable manner around the tear or hole of their origin, and the shape of the detachment points to the position of the retinal hole.

One thousand retinal detachments were analyzed, and they confirm this concept.
Lincoff’s Rules

1. In superior nasal or temporal detachments, the hole lies within 1½ clock hours of the highest border 98% of the time.

2. In total detachment or superior detachments that cross the midline, the primary hole is at 12 o'clock or in a triangle, the apex of which is at the ora serrata, and the sides of which intersect the equator one hour to either side of 12 o'clock. This occurs 93% of the time.

3. In inferior detachments the higher side indicates to which side of the disc an inferior hole lies 95% of the time.

4. When an inferior detachment is bullous, the primary hole is at 12 o'clock.
RULE 1:
In superior nasal or temporal detachments, the hole lies within $1\frac{1}{2}$ clock hours of the highest border 98% of the time.

- Detachment with primary hole in superotemporal quadrant. Fluid has revolved around disc and risen on nasal side to level of hole.

- Distribution of retinal breaks in 279 superotemporal or nasal detachments.
RULE 2:
In total detachment or superior detachments that cross the midline, the primary hole is at 12 o'clock or in a triangle, the apex of which is at the ora serrata, and the sides of which intersect the equator one hour to either side of 12 o'clock. This occurs 93% of the time.
RULE 2:
In total detachment or superior detachments that cross the midline, the primary hole is at 12 o'clock or in a triangle, the apex of which is at the ora serrata, and the sides of which intersect the equator one hour to either side of 12 o'clock. This occurs 93% of the time.

Distribution of retinal breaks in 340 detachments that crossed 12 o'clock meridian.
RULE 3: In inferior detachments the higher side indicates to which side of the disc an inferior hole lies 95% of the time.

- Inferior detachment with primary hole at 6:30 o'clock. Higher side of detachment corresponds with side of retinal hole.

Distribution of retinal breaks in 153 inferior detachments
RULE 3:
In inferior detachments the higher side indicates to which side of the disc an inferior hole lies 95% of the time.

Inferior detachment with equal fluid levels pointing to a hole at six o’clock.

Inferior detachment of 14 years’ duration. Side of highest border of detachment still corresponds with side of retinal break.
RULE 3:
In inferior detachments the higher side indicates to which side of the disc an inferior hole lies 95% of the time.

Inferior detachment in which fluid rises higher on side opposite hole because of traction on retina. Note concave contour of detachment on secondary side (left).

Inferior detachment in which fluid was blocked by chorioretinal adhesions on a previous scleral buckle.
RULE 4:
When an inferior detachment is bullous, the primary hole lies above the horizontal meridian.

Inferior bullous detachment caused by a superior hole which connects by a shallow peripheral sinus. Rotating head demonstrates pathway to hole. (center) with hole above and (right) with hole dependent.
• Almost total detachment. Superior wedge of attached retina discloses true character and points to presence of primary hole in periphery near highest border.
Examination technique

- Determine if detachment is inferior or superior
- If superior does it cross the midline
- If inferior is it bullous
- Map the detachment extent nasally and temporally
- You have determined location of primary tear
Demarcation lines

- Suggest stability of detachment for several weeks
- Very useful to assist in localizing the location of tear as it provides a timeline of the detachment progression.
54 y.o. Female Pseudophake
75 y.o. Female Pseudophake
72 y.o. Phakic Male asymptomatic
72 y.o.  
monocular  
Rabbi  
Vitreous  
heme  
eccentric  
disciform  
with  
subretinal  
heme  
cataract
58 y.o. Male Pseudophake. 3 months s/p successful encircling buckle for RD.
68 yo male, s/p inferior RD encircling band, failed, Vx failed, Repeat Vx Si Oil, IOL, Macular pucker inferior RD beneath Si oil; Remove oil membrane peel Air tamponade. 2 weeks out.