# Collaborative Ocular Melanoma Study (COMS)



## **Objective**

To evaluate mortality outcomes of different treatment options for uveal melanoma.

### Methods

**Design:** multicenter, long-term, studies, 1 observational + 2 RCT

#### **Treatment Groups:**

- Small tumors (N = 188)
  - Observational
- Medium tumors (N = 1317)
  - Enucleation (N = 660)
  - Brachytherapy (N = 657)
- Large tumors (N = 1003)
  - Enucleation alone (N = 506)
  - EBRT (20 Gy) followed by enucleation (N = 497)

#### **Outcome Measures:**

- Small = tumor growth
- Medium = 5y survival
- Large = 5y & 10y survival

## Results

**Small:** small melanomas can be observed safely

- Small = apical height of 1-3mm and basal diameter of 5-16mm
- Primary outcome = tumor growth (i.e., to a medium or large size); 11% grew by 1 year, 21% by 2 years, 31% by 5 years

**Medium:** plaque brachytherapy with i125 is a treatment option

- Medium = apical height of 2.5-10mm and basal diameter of < 16mm
- Primary outcome = 5-year survival; 81% for enucleation vs. 82% for brachytherapy (p=0.48)

Large: pre-enucleation radiation (EBRT) is not effective

- Large = 2mm apical height and >16mm basal diameter OR height > 10mm regardless of diameter OR height > 8mm regardless of diameter if < 2mm from optic disc
- Primary outcome = survival rates; 5-year survival was 57% in enucleation alone vs. 62% with pre-enucleation radiation & 10-year survival was 40% in enucleation alone vs. 45% in pre-enucleation radiation

Small melanomas can be observed.

Medium melanomas can receive brachytherapy or enucleation.

Pre-enucleation radiotherapy is not effective for large melanomas.

The Collaborative Ocular Melanoma Study (COMS) randomized trial of pre-enucleation radiation of large choroidal melanoma, II: initial mortality findings. COMS report No. 10. Am J Ophthalmol. 1998;125:779-796. The Collaborative Ocular Melanoma Study Group. Accuracy of diagnosis of choroidal melanomas in the Collaborative Ocular Melanoma Study. COMS report No. 1. Arch Ophthalmol. 1990;108:1268-1273. Melia BM, Abramson DH, Albert DM, et al. Collaborative ocular melanoma study (COMS) randomized trial of 1-125 brachytherapy for medium choroidal melanoma. I. Visual acuity after 3 years COMS report No. 16. Ophthalmology. 2001;108:348-366.