A very young child in the first few years of life presented with an asymptomatic right neck mass. Neck ultrasound showed heterogeneous enlargement of the right thyroid lobe, and fine-needle aspiration biopsy diagnosed the
mass as benign; the patient was biochemically euthyroid. She underwent right hemithyroidectomy, and the pathology was reported as multinodular goiter with lymphocytic thyroiditis (Figure A-C). Two years later, she was found to have significant left-eye visual loss with photophobia. Ophthalmologic evaluation revealed a choroidal amelanotic mass touching the optic disc, with extensive retinal detachment. Favoring a choroid hemangioma, this was managed with plaque radiation; however, she developed symptomatic neovascular glaucoma, requiring left-eye enucleation. Pathology was interpreted as benign ectopic thyroid tissue (Figure D,E). On re-establishing care 4 years later, she was found to be biochemically euthyroid on a lower-than-expected dose of levothyroxine. A 123I whole-body scan on thyrogen and low-iodine diet demonstrated uptake in the left thyroid and multiple osseous metastases (Figure G-K). Review of both previous pathology specimens revealed a minimally invasive follicular thyroid carcinoma (FTC) in the right thyroid and metastatic FTC in the left eye. The patient underwent completion left thyroid lobectomy to facilitate 131I ablation therapy; there was a 0.25-cm focus of minimally invasive FTC and chronic lymphocytic thyroiditis (Figure F). Next-generation sequencing performed on both thyroidectomy specimens revealed a CHEK2 germline pathogenic mutation c.1100delC(p.T367Mfs*15) but failed to identify any additional mutation. Although CHEK2 mutations are best known in adult breast cancer, they have a much broader significance, as is shown in this example.

POTENTIAL COMPETING INTERESTS
Authors declare no potential competing interests.

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