



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

May 24, 2018

Via E-mail

Gary E. Bischooping Jr.
Chief Financial Officer
Varian Medical Systems, Inc.
3100 Hansen Way
Palo Alto, California 94304-1038

**Re: Varian Medical Systems, Inc.
Form 10-K for the Fiscal Year Ended September 29, 2017
Filed November 27, 2017
File No. 001-07598**

Dear Mr. Bischooping:

We have completed our review of your filings. We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Sincerely,

/s/ Kevin J. Kuhar

Kevin J. Kuhar
Accounting Branch Chief
Office of Electronics and Machinery