



DIVISION OF  
CORPORATION FINANCE

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

July 28, 2010

Mr. Michael D. Dale  
President and Chief Executive Officer  
ATS Medical, Inc.  
3905 Annapolis Lane North  
Minneapolis, MN 55447

**Re:   ATS Medical, Inc.**  
**Preliminary Proxy Statement on Schedule 14A**  
**Filed May 25, 2010**  
**File No. 000-18602**

Dear Mr. Dale:

We have completed our limited review of your filing and do not have any further comments at this time. If you have any questions, please contact Daniel Morris at (202) 551-3314.

Sincerely,

Martin James  
Acting Assistant Director