

STUDENTS PRIMER ON THE URINE

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Students Primer on the Urine by J. Travis Whittaker

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J. TRAVIS WHITTAKER

**STUDENTS PRIMER
ON THE URINE**

STUDENT'S PRIMER ON THE URINE



DEDICATED with PERMISSION
TO MR SEYMOUR HADEN

GILLESPIE
1847

STUDENT'S PRIMER

ON

THE URINE

BY

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With Illustrations etched by him upon Copper



LONDON

J. & A. CHURCHILL, NEW BURLINGTON STREET

1880

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PREFACE.

HOSPITAL physicians and clinical students, for whose use this book is more especially intended, will appreciate what to others appears somewhat of a confusion in the chemical and analytical parts, viz., grammes associated with grains, litres and cubic centimetres with ounces, drams, and minims. As the metric system has as yet only won its way into the scientific laboratory, but has not been adopted in our clinical wards, I have given the preparation (supposed, by-the-by, to be done by the chemist or apothecary attached to the hospital or institution) of the solutions in the metric system, but the results are always given as so many grains to the ounce of urine operated upon. Till the metric system has wholly superseded our irregular English systems, I fear we must be prepared with such expedients, and I shall be most happy to make the necessary

changes if the progress of the better system and the success of the book require it.

The calculations have not been refined by corrections for temperature and barometrical pressure, in order to encourage clinical students to perform analyses daily.

The study of the urine and its chemical investigation is claiming every year greater prominence in professional education. From the facility with which random or ingenious hypothetical answering can be checked, it is also bulking more largely in clinical and qualifying examinations.

The illustrations are, for the most part, the result of observation of some years made during clinical examination of urine for the demonstrations conducted in Dr. Charteris' Wards, Royal Infirmary, Glasgow.

I may be permitted here to call attention to what seems to me the suitability of the etching needle for delineation of microscopic appearances, and the honour I feel in associating the name of a surgeon and aquafortist so celebrated as that of Mr. Seymour Haden, who has done so much to render etching a living art in this country.

J. T. W.

DECEMBER, 1879.

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