# CAP Author Chat - The Color Atlas of Flow Cytometry

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**Lisa Tomcko:**

Welcome to the latest edition of the College of American Pathologists' CAPcasts series. I'm Lisa Tomcko, Content Specialist at the CAP. Today I'm speaking with Dr. David Dorfman about the new Color Atlas of Flow Cytometry, a recently published book that includes 71 cases and provides examples of the full range of hematolymphoid diseases that can be productively analyzed by flow cytometric immunophenotyping.

Dr. Dorfman is affiliated with Harvard Medical School and Brigham and Women's Hospital. As one of the editors of this book, he's here to share his thoughts with us. Welcome, Dr. Dorfman.

**Dr. David Dorfman:**

Oh, thank you.

**Lisa Tomcko:**

And let's get right into the questions. Who did you have in mind when creating this atlas?

**Dr. David Dorfman:**

Well, my co-editors and I wanted to create a comprehensive clinical flow cytometry reference guide based on College of American Pathologists Flow Cytometry Proficiency Testing programs that were created and managed by a committee that we were members of, the Diagnostic Immunology and Flow Cytometry Committee. And our intended readership was students and trainees and clinical flow cytometry and hematopathology, medical technologists working in clinical flow cytometry laboratories, practicing hematopathologists and clinical immunologists.

**Lisa Tomcko:**

And what need does the publication address? In other words, what outcome are you hoping for with this publication?

**Dr. David Dorfman:**

Well, maybe I could just give you a little background. The atlas is based on flow cytometry proficiency testing surveys that were created by our committee. And there were a couple of different surveys and they included many flow cytometry cases from the clinical flow cytometry laboratories of the committee members.

Each year the committee sends out de-identified clinical and laboratory data for several cases, including the dot plots of actual flow cytometry studies that were performed by the submitting laboratory to survey participants. They analyze each case, they arrive at a diagnosis, they report positive and negative antigens, and they submit this to the committee for comparison with other survey participants. And the committee members then prepare reports on the survey results, including a discussion of the correct diagnosis, other participant diagnoses and important teaching points that all of the survey participants receive.

And several years ago, my co-editors and I, the co-editors were Dr. William Carlin from the University of California, and Dr. Michael Linden from the University of Minnesota. We thought that a collection of these cases would be a useful resource for clinical flow cytometry laboratory students, trainees, and practicing hematopathologists.

Because in addition to providing examples of the whole range of the kinds of diseases that are analyzed by flow cytometry, by including the results of the proficiency surveys, the participant results, readers of this collection have the opportunity to see how other flow cytometry practitioners interpret the findings in each case.

So in many instances, the most common diseases that are encountered in clinical practice, there's agreement on the interpretations by the vast majority of participants in the surveys. But for other cases there are significant problems in arriving at the correct diagnosis. And we thought that an atlas that documented this would allow readers to appreciate the disease categories and the specific disease entities that were particularly difficult to diagnose correctly in clinical practice because of various reasons, either because they're uncommon diseases or because they have very complicated immunophenotypic patterns that need to be appreciated in order to arrive at a diagnosis. And that was our intention to allow readers to see these types of cases, both the very difficult cases as well as the more straightforward ones.

**Lisa Tomcko:**

You touched on this when you were talking about the intended audience for the publication, but how will medical students, medical technologists, and practicing pathologists alike, benefit from this publication?

**Dr. David Dorfman:**

The atlas actually can work in two different ways. It's organized into sections by disease categories, but the cases are presented in a way where you could look at them without knowing the diagnosis and the interpretation at the outset. So it can be used for readers to test their ability to arrive at a correct diagnosis.

Alternatively, the atlas can be used as a reference text on the characteristic findings of a wide range of disease entities and clinical flow cytometry practice. And for this purpose, the table of contents lists all the diseases in the atlas and it's organized by disease category, so it can be used as a reference work.

**Lisa Tomcko:**

The book includes 71 cases as well as more than 270 images, photo micrographs, thought plots, survey data and case discussions. Where did the case data come from?

**Dr. David Dorfman:**

These were all cases that were contributed by the members of the Diagnostic Immunology and Flow Cytometry Committee from 2009 to the present. Members developed and wrote the atlas along with several additional volunteers. So we all contributed actual clinical cases from our clinical flow cytometry laboratories. And then of course, we incorporated the results from the proficiency survey participants. And we also wrote case discussions based on those clinical findings and the participant responses.

And then in addition, many of us contributed additional cases in case discussions often for less commonly encountered entities in clinical flow cytometry practice.

And finally, two members of the committee with an expertise in inborn errors of immunity and their analysis by flow cytometric testing, Dr. Roshini Abraham and Vijaya Knight, they contributed cases and case discussions to illustrate the most common disease entities encountered in clinical practice and the flow cytometric approach to evaluating those disorders.

**Lisa Tomcko:**

And as one of the books editors, you worked with many contributors. You mentioned your co-editors, but do you have any thoughts about your co-creators of this book? Anything else that you'd like to share about them?

**Dr. David Dorfman:**

My co-editors and I we're all very grateful for the hard work of the members of the Diagnostic Immunology and Flow Cytometry Committee and also the other volunteers who worked on the project. And we hope that readers will find it useful and informative.

**Lisa Tomcko:**

And any other parting thoughts you'd like to share?

**Dr. David Dorfman:**

I just received my copy of the atlas few days ago, and it seems like it's going to be useful and effective. I think it has lots of images and the format seems useful for what we intended. So I hope readers will enjoy reading it.

**Lisa Tomcko:**

Very exciting to be holding the copy. Well, thank you again, Dr. Dorfman, for joining us today. And congratulations to you and the team on the publication.

**Dr. David Dorfman:**

Thank you.

**Lisa Tomcko:**

And for those listening to purchase the Color Atlas of Flow Cytometry, go to estore.cap.org and search for the publication using the book's title.