January/February 2020 PDA Letter

2020 PDA Annual Meeting

Discover the latest advancements in parenteral manufacturing at the *2020 PDA Annual Meeting* by reading through our special Annual Meeting supplement!

Cover Art Illustrated by Katja Yount

A Glimpse at FDA's Micro Regulations

Rebecca Stauffer, PDA

Throughout the conference, attendees could submit questions on cards to be read during the session. This is a popular session of the microbiology conference, and, if you missed it, consider attending the *15th Annual Global Conference on Pharmaceutical Microbiology,* Oct. 19–21, in Washington, D.C.

FDA Panel Addresses EtO Sterilization

Rebecca Stauffer, PDA

In order to prevent potential shortages of critical medical devices, manufacturers and state regulators must resolve environmental concerns about ethylene oxide (EtO) sterilization. This was the consensus of the U.S. FDA CDRH General Hospital and Personal Use Devices Advisory Committee panel following one-and-a-half days of discussion at a public meeting Nov. 6–7 in Gaithersburg, Md.

5 Challenges of Closed System Transfer Devices

New USP Chapter Specifies Use of Closed System Transfer Devices for Hazardous Drugs Spurring Industry Response

Cathy Zhao, PhD, and Allison Radwick, PhD, West Pharmaceutical Sciences

USP <800> Hazardous Drugs—Handling in Healthcare Settings, effective Dec. 1, 2019, provides standards for limiting occupational exposure to hazardous drugs for healthcare personnel. The chapter clearly applies to any healthcare site handling hazardous drugs including pharmacies, hospitals, clinics, doctor offices and treatment centers. So why should pharmaceutical manufacturers and their associated suppliers care about the new chapter?

The PQL Team Part I: Building the PQL Role

Stephan Krause, PhD; Mariam Khan; Callum Chapman; Rob Gaglione; Andy Spasoff; Anthony Mire-Sluis, AstraZeneca

In addition to greater quality assurance, the PQL role also serves as a development path to build up the leadership skills of emerging quality leaders within the company who have also provided fresh ideas for the role as well.

PDA Letter

Volume LVI • Issue 1 www.pda.org/pdaletter

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> **On the Issue** | Deviations Investigation with Kevin Jenkins
Kevin Jenkins, Pfizer (now retired), talks about how to conduct an effective deviations investigation.

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PDA GLOBAL HEADQUARTERS
4350 East West Hwy., Suite 600
Bethesda, MD 20814 USA
Tel: +1 (301) 656-5900
Fax: +1 (301) 986-0296
info@pda.org
www.pda.org

PDA EUROPE — AM BORSIGTURM 60
Am Borsigturm 60
13507 Berlin, Germany
Tel: 49 30 4365508-0
Fax: +49 30 4365508-66
info-europe@pda.org

PDA TRAINING & RESEARCH INSTITUTE
4350 East West Hwy., Suite 150
Bethesda, MD 20814 USA
Tel: +1 (301) 656-5900
Fax: +1 (240) 482-1659
info-tri@pda.org

March/April 2020 PDA Letter

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BioManufacturing Conference Tackles Five Issues: Part I

Michael DeFelippis, PhD, Eli Lilly, and Cristiana Campa, PhD, GSK

Monoclonal antibodies. Vaccines. Advanced therapy medicinal products. All of these biologics face common manufacturing challenges.

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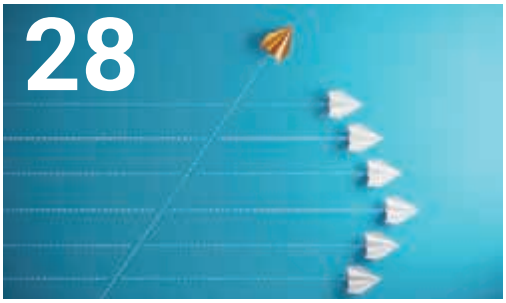
Qualification of Manual Visual Inspection Still Critical

Alexis Flaquiere and Jean Malthête, GSK Vaccines

Manual visual inspection is the most common method for performing 100% visual inspection of parenteral liquids and remains a critical procedure that all manufacturers must continue to perform.



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The PQL Team Part II: Getting Ahead

Stephan Krause, PhD, Mariam Khan, Callum Chapman, Rob Gaglione, Andy Spasoff and Anthony Mire-Sluis, AstraZeneca Biologics

Soon after initiating the PQL role and building a team of PQLs, a capability/skills matrix was developed to help them succeed and grow. The primary objective was to raise awareness among PQL team members and management of the group's current strengths and where gaps may exist.

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CCIT Challenges for Cryopreserved Biologic Products

Pascal Sircoulomb, ARaymondlife, and Luce Sohier, SCHOTT

Cell and gene therapy products are typically stored at -180°C and -80°C, respectively, throughout their lifecycle to provide a safe environment to the drug substance and prevent degradation, but such extreme cold temperatures can negatively impact vial-based container-closure systems.

Photo courtesy of SCHOTT

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Volume LVI • Issue 2 www.pda.org/pdaletter

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> Special COVID-19 Coverage
Continue to check out the PDA Letter website each week for updated coverage of the COVID-19 situation from PDA members around the world.

> **GMP Tales** | The Case of the B. cepacia Contamination
Learn about a Burkholderia cepacia contamination event and how the U.S. FDA responded in the inaugural episode of the PDA Letter podcast, GMP Tales.

> **On the Issue** | Innovations in Aseptic Processing
Amgen's Chakradhar Padala shares his thoughts on innovative aseptic processing solutions in an On the Issue video.

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4350 East West Hwy., Suite 600
Bethesda, MD 20814 USA
Tel: +1 (301) 656-5900
Fax: +1 (301) 986-0296
info@pda.org
www.pda.org

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Am Borsigturm 60
13507 Berlin, Germany
Tel: 49 30 4365508-0
Fax: +49 30 4365508-66
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PDA TRAINING & RESEARCH INSTITUTE
4350 East West Hwy., Suite 150
Bethesda, MD 20814 USA
Tel: +1 (301) 656-5900
Fax: +1 (240) 482-1659
info-tri@pda.org

May/June 2020 PDA Letter

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Visual Inspection Practices of Cleaned Equipment: Part I

Walid El Azab, STERIS, and Stephane Cousin, GSK Vaccines

Regulatory and compendial guidelines require that manufacturers confirm process equipment is visually clean following a cleaning operation. Recently, an industry survey showed that visual inspection practices for cleaned equipment differ among manufacturers. At the same time, the survey indicated that while practices and even terminology may differ, this can be accepted by regulators provided processes are well documented.

Cover Photo courtesy of Steris

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CMO Works Around the Clock to Produce COVID-19 Meds

Rebecca Stauffer, PDA

Recently, three clients of contract manufacturer Berkshire Sterile Manufacturing (BSM) had a special request for the CMO. Could BSM manufacture three sterile drugs that would serve as treatments for COVID-19? And, instead of the normal three- to six-month turnaround time, could they do it in four weeks?

The PQL Team Part III: Staying Ahead

Stephan Krause, Mariam Khan, Callum Chapman, Rob Gaglione, Andy Spasoff, Anthony Mire-Sluis, AstraZeneca

The PQL role is established, a team of PQLs built, and a capability/skills matrix developed to help the PQLs succeed and grow. The next step involves expanding their skillsets by applying additional lean concepts that will move PQLs toward continuous improvement and "staying ahead."

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New Vial Tech Shows Promise for Pharma Productivity

Dawn Watson and Jeff Cremi, Merck & Co., Inc.

Advances in pharmaceutical glass packaging offer advantages for both patients and manufacturers, but the potential of new innovations will not be reached without rigorous testing and line trials to confirm their benefits.

PDA Letter

Volume LVI • Issue 3 www.pda.org/pdaletter

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> **On the Issue | Sterility Test Failure Investigations**
Dennis Guilfoyle, PhD, discusses sterility test failure investigations at the 14th Annual PDA Global Conference on Pharmaceutical Microbiology.

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4350 East West Hwy., Suite 600
Bethesda, MD 20814 USA
Tel: +1 (301) 656-5900
Fax: +1 (301) 986-0296
info@pda.org
www.pda.org

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Am Borsigturm 60
13507 Berlin, Germany
Tel: 49 30 4365508-0
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4350 East West Hwy., Suite 150
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Tel: +1 (301) 656-5900
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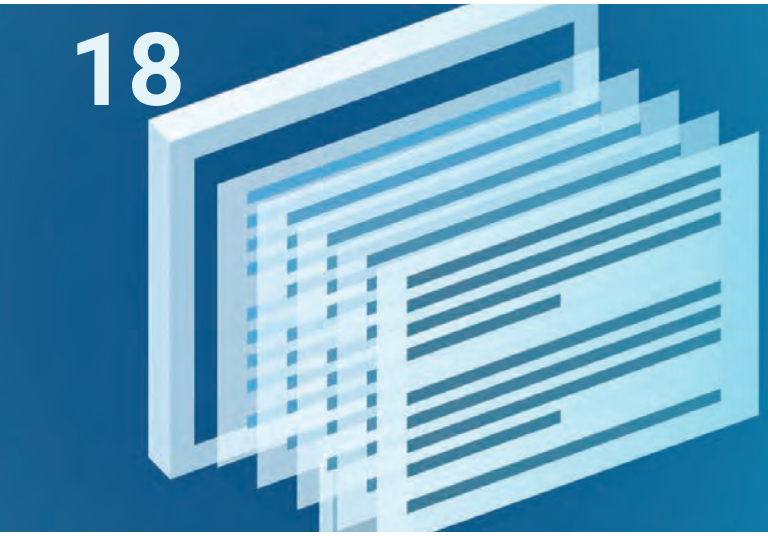
July/August 2020 PDA Letter

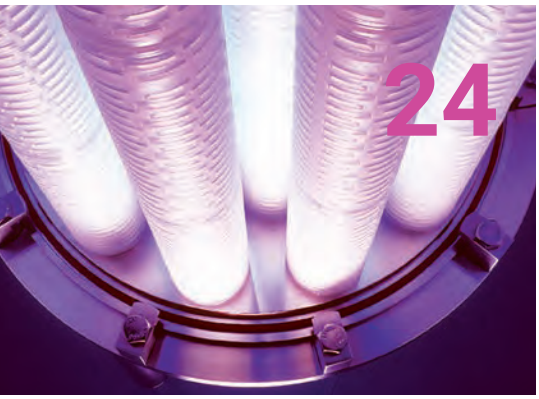


Regulator Develops Remote Inspection Process Due to Pandemic

Vladislav Shestakov, Russian State Institute of Drugs and Good Practices, and Elizabeth Meyers, Amgen

Russia's State Institute of Drugs and Good Practices (SID&GP) recently conducted its first remote GMP inspection of a manufacturing facility for an international pharmaceutical company. The "social distancing" restrictions in place due to Covid-19 limit the number of staff on site, necessitating the novel alternative. This article presents both sides of the experience to provide guidance for both manufacturers and regulators around the globe as they migrate to this new form of inspection.

Cover Art Illustrated by Katja Yount



The Use of Scientific Data to Assess and Control Risks Associated with Sterilizing Filtration

William Peterson, Merck & Co.

In recent years, a desire to minimize the risks associated with sterilizing filtration has prompted much discussion on the need for pre-use/post-sterilization integrity testing (PUP-SIT) to detect nonintegral filters *before they are used* if there is any risk of not detecting them after the filtration process. The purpose of this article is to present guidance to industry (sterile drug manufacturers, filter suppliers and regulators) on how to develop and evaluate scientific data to prevent undetected nonintegral sterilizing filters.

Industry Must Move Away from Dye Ingress Test

Oliver Stauffer, PTI

Few events have contributed more to society's understanding of pharmaceutical container closure integrity than the 1970 outbreak of bacterial infections from IV fluid container failure. Eight hospitals across seven states received compromised IV fluids, leading to nine deaths. The outbreak was eventually attributed to closure failure of IV fluid bottles during the sterilization process. The closure system failure was not something that would be detected with CCI protocols of that time.

PDA Letter

Volume LVI • Issue 4 www.pda.org/pdaletter

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New at the PDA Letter Online

> **PDA Podcasts** | July/August *PDA Letter*
> The July/August *PDA Letter* podcast is now available! Hear GSK's Michele Myers discuss advanced therapeutic products at the 2016 PDA Annual Meeting.

> Pharma Firm Explores RFID for Prefilled Syringes
> Traceability can be a complex subject due the different process requirements and company needs.

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4350 East West Hwy., Suite 600
Bethesda, MD 20814 USA
Tel: +1 (301) 656-5900
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info@pda.org
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Am Borsigturm 60
13507 Berlin, Germany
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4350 East West Hwy., Suite 150
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September/October 2020 PDA Letter

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PDA Survey Results

Current State of Biopreservation in Cell and Gene Therapy Products and Biopharmaceutical Commercialization

Brian J. Hawkins, Raluca Marcu, Pluristyx, Inc.

The first successful cryopreservation studies were performed in 1949 and, since then, numerous strategies have been proposed and adopted to facilitate the rapid restoration of cellular function following freezing. Unfortunately, despite decades of research and increasing emphasis in the clinic, harmonized cryopreservation standards for cell and gene therapies (Advanced Therapy Medicinal Products or ATMPs) do not exist, and cryopreservation protocols vary widely in practice both between, and even within, commercial and academic groups.

Cover Photo by dra_ schwartz, iStock.com

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Best Practice Guide for Using KPI's/Metrics

Bernhard Hinsch, Hinsch Consulting

The PDA Quality Systems Interest Group (QSIG) provides a forum for industry experts to discuss "hot" topics, which usually relate to rapidly evolving interpretations of current regulations. One such topic is the use of Key Performance Indicators (KPIs) and metrics.

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The House of Data Integrity Compliance

by Matthew Paquette, Charles River

Various industry influences have challenged how we—as scientists, manufacturing technicians or quality control professionals—approach the processes that protect the integrity of the data we collect during the manufacture and release of products that impact human and animal health globally.

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The Evolution of USP <800>: A Q&A with Cathy Zhao and Allison Radwick

The *PDA Letter* talked with **Cathy Zhao,** Director of Scientific Insights Lab, and **Allison Radwick,** Scientific Affairs Manager, from West Pharmaceutical Services about closed system transfer devices and the evolution of *USP <800> Hazardous Drugs—Handling in Healthcare Settings*. Below are their responses.

PDA Letter

Volume LVI • Issue 5 www.pda.org/pdaletter

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4350 East West Hwy., Suite 600
Bethesda, MD 20814 USA
Tel: +1 (301) 656-5900
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info@pda.org
www.pda.org

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Am Borsigturm 60
13507 Berlin, Germany
Tel: 49 30 4365508-0
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4350 East West Hwy., Suite 150
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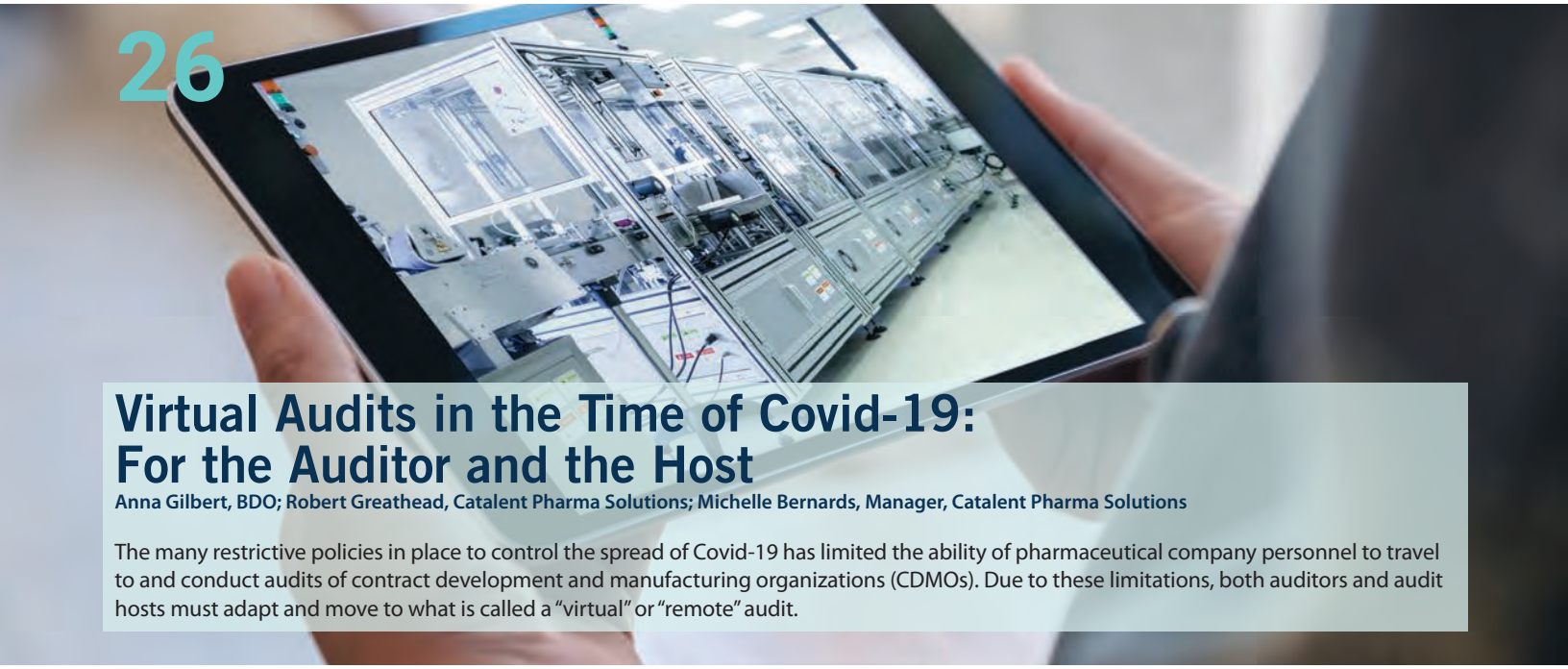

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Virtual Audits in the Time of Covid-19: For the Auditor and the Host

Anna Gilbert, BDO; Robert Greathead, Catalent Pharma Solutions; Michelle Bernards, Manager, Catalent Pharma Solutions

The many restrictive policies in place to control the spread of Covid-19 has limited the ability of pharmaceutical company personnel to travel to and conduct audits of contract development and manufacturing organizations (CDMOs). Due to these limitations, both auditors and audit hosts must adapt and move to what is called a "virtual" or "remote" audit.

Cover Art Illustrated by Katja Yount

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Continued Process Verification: Reacting to Data Signals

Ajay Babu Pazhayattil, Industrial Pharmacist

With the availability of statistical analysis, modelling tools, and advancements in machine learning and artificial intelligence solutions, the utilization of a growing body of process knowledge gained through the lifecycle stages of process validation is an expectation in the bio/pharmaceutical industry.

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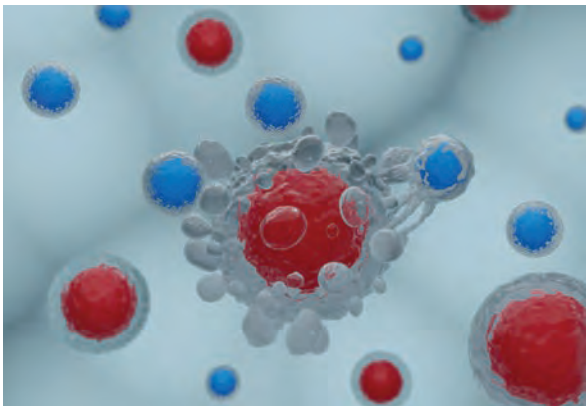
T-Cell Therapy Saves a Life

Marilyn L. Foster, PDA

Emily Whitehead was diagnosed with standard-risk pre-b acute lymphoblastic leukemia when she was only five years old. After two rounds of chemotherapy, an infection that almost cost her both legs and a full relapse, she became Patient 1 in a Phase 1 trial of T-cell therapy.



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