

SPEAKERS

MARTIN DEARDEN
UCB

DEREK DUNCAN
Lighthouse

DR HELMUT GAUS
Boehringer Ingelheim

AL GOODWIN
Amgen

ULI KUCHENBROD
Vetter Pharma-Fertigung

DR STEPHEN LANGILLE
FDA

GERT MOELGAARD
NNE Pharmaplan

DR TOBIAS POSSET
Roche

DR BERND RENGER
*Immediate Past Chair
of the European QP
Association*

DR RETO STAHL
Streuli Pharma

Special bonus

Each participant receives the current version of the new **best practice paper on visual inspection**



Image: Seidenader

New Programme

Particles in Parenterals and beyond

Avoiding Failures & Rejects in Parenteral Manufacturing

24-25 September 2014, Copenhagen, Denmark

HIGHLIGHTS:

- **Regulatory Requirements**
 - Recent Compendial requirements on parenteral testing
 - FDA's view on risks related to parenteral manufacturing
 - FDA's thinking on current visual inspection techniques
- **Best Practices for 100% Controls**
 - Visual inspection – set up, routine and re-inspection
 - Modern container/closure integrity testing
 - Statistics and AQL testing
- **Optimisation**
 - Avoiding particles from packaging components
 - Avoiding particles from the manufacturing process
- **Failure Investigation / CAPA**
 - Particle & root cause identification
 - Worst Case Study: Recall in Switzerland
 - Release considerations

Particles in Parenterals

24-25 September 2014, Copenhagen, Denmark

Objectives

The aim of this conference is to inform about the various possibilities to improve the patient safety of sterile products; first by using advanced controls, second by optimising processes and packaging materials.

Background

In recent years, the number of recalls worldwide has been increasing dramatically. These recalls were mainly due to visible particles in the product, defects of the primary packaging like glass breakage and/ or possible non-sterility, for example. Nevertheless, the question can't be answered explicitly whether the increased number of recalls has really been caused by multiplied product defects or only by enhanced awareness of the manufacturers as well as of the authorities to respond to possible risks with recall actions.

Recalls are not only always associated with great costs, they also damage the reputation of a company and thus, represent a real nightmare for every pharmaceutical firm. Deviations detected during manufacturing (before a batch release) should be minimised, not only to ensure product supply but also in the interest of patient safety. In the age of QbD, ICH Q8-10 and continuous process verification, this means - in the end - for the manufacture of sterile medicinal products to concentrate on two action fields:

- Controlling packaging materials, processes and final products
- Optimising processes, packaging materials and controls themselves

In the pharmacopoeias, 100% visual controls of parenteral are required on visible particles and packaging defects. All in all, these regulations leave very much room for interpreting the performance of such controls. This includes for example the definition of visible particles, the determination of testing times in manual controlling and detection rates in automatic controlling. Topics like performing AQL tests after visual controls or executing leak tests are not uniformly handled and thus, tend to lead again and again to discussions and uncertainty.

The questions below will be discussed and possible answers will be developed together by representatives of industry and authorities:

- What are the regulatory requirements for testing parenteral drugs?
- How do authorities see the risks of various defects of sterile products?
- Which are the sources of particles?
- How to handle a deviation observed in the particle testing?
- Are there new testing methods regarding container/closure integrity?
What are their capacities?
- Are AQL tests required in visual controlling? What are the limits?
- What possibilities do exist to optimise manufacturing processes?
- How can primary packaging be optimised?
- Can continuous process verification replace traditional validation?

Target Audience

This conference is directed at specialists and executives from sterile operations, that is manufacturing, quality control and engineering. But also persons responsible for deviation and CAPA systems and suppliers of primary packaging materials for sterile medicinal products are target group of this conference.

Moderator

Bernd Renger

Best Practice Paper



The new ECA Working Group on "Visual Inspections" was founded in early 2014. The group's goal is to take advantage of the long lasting experience of its members and the learnings from previous conferences to contribute to a harmonisation and to generate a best practice paper.

This paper is supposed to be distributed to all participants of this event. Take advantage of also discussing it with its authors during the conference.

Continuous Process Verification vs. traditional validation in aseptic processing **GERT MOELGAARD, NNE Pharmaplan**

Validation concepts for aseptic processing build on a number of well-established practices and traditions. However, as new validation guidelines, new concepts for quality monitoring and especially concepts for both continued and continuous process verification evolves in other areas of pharmaceutical manufacturing, the area of aseptic processing will be both inspired and challenged to move on. As the application of Process Analytical Technology, continuous monitoring and real-time-release becomes possible within pharmaceutical processes, the question becomes how much that can be applied within aseptic processing.

We will compare experiences and solutions for continuous process verification and look into new technologies and applications that can modernise aseptic process validation and lead towards continuous process verification.

Regulatory Requirements

Regulatory Requirements for the testing of parenterals

- Compendial Requirements
 - 100% visual inspection & AQL testing
 - Similarities and differences
 - Proposed changes USP <788>
- GMP Requirements
- Root of administration and risk consideration

FDA's thinking on particles and testing of parenterals

- FDA regulations relating to particulate matter in injectable drug products
- FDA drug application requirements and trends
- Recent recall events due to particulate matter contamination
- Clinical concerns regarding particulate matter contamination
- Risks regarding failures in parenterals and FDA's risk ranking

Best Practices for 100% Controls

Best practice for complying with the requirements in the manual and automated visual inspection

- Defect classes
- Test kits and test samples
- Warning limits
- OOS- and Deviation-Matrix
- Qualification and training of the personnel
- AQL testing, release decision

Challenges for fully-automated visual inspection

- Fundamentals & Essential Challenges
 - What does "essentially free" or "practically free" mean for automated systems?
 - Principal setup of an automated inspection system: human/machine comparison vs. detection rates
 - Test sets for qualification, requalification and system suitability test kits
- Auto system Challenges
 - Technical
 - Reject rate
 - Re-inspection - friend or foe
- Territory specific Challenges
 - GMP Defects
 - Total Rejects-sub batch inspection

Design of robust Algorithms for Vision Automated Systems

- Overview of Algorithm approaches
- Over dependence on intensity based systems
- Common language for Algorithm robustness
- Algorithms optimised for Glass Vial/ Syringe
- New developments in Algorithm design
- Real world examples

Oversight of container/closure integrity testing technologies

- Physical fundamentals of the different methods
 - Pressure / Vacuum Decay
 - LFC (Liquid Filled Container) leak testing
 - TDLAS/ HSA (frequency modulated spectroscopy)
 - High Voltage leak testing
 - 3µm IR and Mass-Spectroscopy
 - Force Detection
- Selection matrix for products including primary container type, product properties (liquid, lyo, etc.)
- Inline versus sample testing or 100% check vs. feelgood factor
- Limits and false acceptance traps
- Leak sizes and leak rates (false friends and measurable properties?)
- The risk assessment as the first step (or do we need leak detection at all?)

Optimisation of Processes

Reduction of particles originating from primary packing materials

- Definition and characterisation of particles originating from primary packaging material
- Market Trends and expectations
- Opportunities and optimization for packaging material suppliers
- Experiences on the gate for incoming goods
- Challenges along the value chain
- Lessons learned

Particle Identification and reduction of particles within the production process

- Particle identification using different analytical methods
- Particle isolation and characterisation
- Extrinsic vs. intrinsic particles
- Special case: sub-visible particles
- Particle reduction within the parenteral production

Failure Investigation

Particle levels exceeded – what to do?

- Root cause investigation
- Possible sources of particulates
 - Starting materials
 - Packaging materials
 - Processes and methods
 - Equipment and tools
 - Incompatibilities
- Release considerations

Worst Case Story: Recall of Ampoules

- Leakage of sterile ampoules
- Root cause analysis and usage of high tech testing methods
- Impossibility of the defect detection
- Cooperation with the authorities
- Cooperation with the glass/packaging material supplier
- Elimination of the defect – lessons learnt

Social Event



On September 24, you are cordially invited to a social event. This is an excellent opportunity to share your experiences with colleagues from other companies in a relaxed atmosphere.

Easy Registration

 **Reservation Form:**
CONCEPT HEIDELBERG
P.O. Box 10 17 64
69007 Heidelberg
Germany

 **Reservation Form:**
+ 49 6221 84 44 34

 **e-mail:**
info@concept-heidelberg.de

 **Internet:**
www.gmp-compliance.org

Date

Wednesday, 24 September 2014, 09.00 to approx. 17.45 h
(Registration and coffee 08.30 – 09.00 h)
Thursday, 25 September 2014, 08.30 to approx. 16.40 h

Venue

Radisson Blu Scandinavia Hotel
Amager Boulevard 70
2300 Copenhagen S
Denmark
Phone +45 33 96 50 00
Fax +45 33 96 55 55



Fees (per delegate plus VAT)

ECA Members € 1.590
APIC Members € 1.690
Non-ECA Members € 1.790
EU GMP Inspectorates € 895

The conference fee is payable in advance after receipt of invoice and includes conference documentation, dinner on the first day, lunch on both days and all refreshments. VAT is reclaimable.

Accommodation

CONCEPT HEIDELBERG has reserved a limited number of rooms in the conference hotel. You will receive a room reservation form when you have registered for the event. Please use this form for your room reservation to receive the specially negotiated rate for the duration of your stay. Reservations should be made directly with the hotel. Early reservation is recommended.

Conference language

The official conference language will be English.

Organisation and Contact

ECA has entrusted Concept Heidelberg with the organisation of this event.

CONCEPT HEIDELBERG
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D-69007 Heidelberg, Germany
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For questions regarding content:

Dr Robert Eicher (Operations Director) at +49(0)62 21 / 84 44 12,
or per e-mail at eicher@concept-heidelberg.de.

For questions regarding reservation, hotel, organisation etc.:

Ms Nicole Bach (Organisation Manager) at +49(0)62 21 / 84 44 22,
or per e-mail at bach@concept-heidelberg.de..

If the bill-to-address deviates from the specification to the right, please fill out here:

Reservation Form (Please complete in full)

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Particles in Parenterals - Avoiding Failures & Rejects in Parenteral Manufacturing
24-25 September 2014, Copenhagen, Denmark

Mr Ms

Title, first name, surname

Company

Department

Important: Please indicate your company's VAT ID Number

Purchase Order Number, if applicable

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Fax +49 (0) 6221/84 44 34

69007 Heidelberg
Germany

Street / P.O. Box

City

Zip Code

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E-Mail (Please fill in)

General terms and conditions

If you cannot attend the conference you have two options:

1. We are happy to welcome a substitute colleague at any time.
2. If you have to cancel entirely we must charge the following processing fees: Cancellation
 - until 2 weeks prior to the conference 10 %
 - until 1 weeks prior to the conference 50 %
 - within 1 week prior to the conference 100 %.

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Important: This is a binding registration and above fees are due in case of cancellation or non-appearance. If you cannot take part, you have to inform us in writing. The cancellation fee will then be calculated according to the point of time at which we receive your message. In case you do not appear at the event without having informed us, you will have to pay the full registration fee, even if you have not made the payment yet. Only after we have received your payment, you are entitled to participate in the conference (receipt of payment will not be confirmed)! (As of January 2012)



MARTIN DEARDEN, *UCB S.A*

Martin has 26 years of experience in the Pharmaceutical Industry with over 20 years concerned with the manufacture of sterile products and Biologics in different companies and positions, e.g. QA head and QP. Martin holds Degree level qualifications in Applied Biology and also Immunology and Microbiology. He is Senior Director at UCB S.A. and as the UCB Corporate Microbiologist he is responsible for microbiological standards, policy and strategy within the UCB Global Quality Organisation.

DR DEREK DUNCAN, *Lighthouse*

Dr Duncan began his career as a Research Scientist at the Dutch Institute for Atomic & Molecular Physics in Amsterdam. He then moved into industry holding various Product & Application Development positions. Currently at LIGHTHOUSE Dr. Duncan is responsible for developing applications for pharmaceutical process monitoring and finished product inspection.



DR HELMUT GAUS, *Boehringer Ingelheim GmbH & Co. KG*

Within his various positions in the pharmaceutical industry the incoming inspection of packaging components and visual inspection of finished dosage forms have always been part of Dr Gaus' responsibility. He has been Qualified Person and Vice President Quality Control at Rentschler Biotechnologie and Vetter Pharma-Fertigung. Since 2014 he is Vice President Control of Boehringer Ingelheim Biotechnologie Germany in Biberach.



AL GOODWIN, *Amgen*

Al Goodwin has 25 years of experience in optical inspection systems. 10 years of this focused on the pharmaceutical industry. He has worked in Japan for 5 years on optical test measurement systems and at Engineering Director level at inspection design companies based in Europe. In the last 15 years he has worked closely with key International Machine Vision Software design companies and has used this experience in areas of Particle detection, Glass flaw detection and improvements and evaluation of Vision Algorithm Robustness in the pharmaceutical industry.



DR STEPHEN LANGILLE, *FDA, Office of Pharmaceutical Science, CDER*

Dr Langille is a Senior Microbiology Reviewer with the Center for Drug Evaluation and Research. He joined the FDA in 2000 and has served as an FDA liaison to the USP Parenteral Products – Industrial and USP Dosage Forms expert committees. Dr Langille serves on a number of FDA and USP committees dealing with issues related to particulate matter in injectable drug products.



ULI KUCHENBROD, *Vetter Pharma-Fertigung GmbH & Co. KG*

Over the last 11 years with Vetter, Uli has held various positions along the value chain. The last 4 years as director QC Incoming Goods.



GERT MOELGAARD, *NNE Pharmaplan*

Gert Moelgaard is Vice President for Innovation & Business Development in NNE Pharmaplan. He has been working in the pharmaceutical industry since 1982 and has experience from a number of major engineering, automation and validation projects within pharmaceutical manufacturing. He has made international contributions in international conferences on automation, process validation, PAT and manufacturing excellence and has contributed to several books and technical guidelines.



DR TOBIAS POSSET, *Roche Diagnostics GmbH*

Tobias Posset studied Biochemistry and Chemistry. Actually he is heading the Production Support unit in the Pharma Production at Roche Diagnostics in Mannheim. Herein he is responsible for the in-process control, the particle laboratory, the automated visual inspection machines and the coordination of the manual inspection training.



DR BERND RENGER, *Immediate Past Chair of the European QP Association; Renger Consulting, Germany*

Dr Bernd Renger is a member of the European Compliance Academy (ECA) Advisory Board and Immediate Past Chair of the European QP Association. Since 2011 he is running his own consultancy business. Before that he was VP of Quality Control at Vetter Pharma-Fertigung. He started his career 1977 at Hoechst AG as a research and development chemist. Since then, he has held several quality management positions at Mundipharma, Byk Gulen (now Takeda) and Baxter BioScience in Vienna.



DR RETO STAHL, *Streuli Pharma AG, Director of Operations*

Reto Stahl has been working for different pharmaceutical companies in Switzerland and Europe with responsibilities for production, validation, sales and quality departments since 1997. In the current position as COO, Dr Stahl adjusts quality improvements with cost adjustments.