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Current USP Perspectives on Sterilization & Sterility Assurance

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Presentation Outline

- Who is the 2005-2010 USP MSA Committee
- The 2005-2010 MSA Mission
- Included & Excluded Subjects
- Key Areas of Activity
  - <1211>
  - <1208>
  - <1116>
  - <1222>
- What's on the Horizon?

What I Will & Won't be Discussing

- Included Subjects
  - Sterilization
  - Sterility Assurance
  - Sterility Testing
- Excluded Subjects
  - Microbial Test Methods
  - Microbial Limits Testing

Who's on the MSA Committee?

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- James Akers, Ph.D., AK&A, Chairman
- Scott Sutton, Ph.D., Vectech, Vice-Chair
- James Agalloco, A&A
- Ivan Chin, Ph.D., J&J
- Anthony Cundell, Schering Plough
- J. Kirby Farrington, Ph.D., Eli Lilly
- Dennis Guilfoyle, Ph.D., FDA ORA
- David Hussong, Ph.D., FDA CDER
- Leonard Mestrandrea, Ph.D., Pfizer (ret.)
- David Porter, Ph.D., Vectech
- Donald Singer, GSK
- Radha Tiramuli, Ph.D, USP Staff liaison

What's MSA's mission for 2005-2010?

- Complete the harmonization effort for assigned chapters.
- Develop evidenced based guidance for USP on aspects of microbiological testing, sterilization & sterility assurance.

Key Areas of Activity

- <1211> Sterilization & Sterility Assurance
- <1116> Microbiological Control & Monitoring of Aseptic Processing Environments
- <1222> Terminally Sterilized Pharmaceutical Products – Parametric Release
- <1208>Sterility Testing – Validation of Isolator Systems

<1211> Sterilization & Sterility Assurance completed activities

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- Eliminated the entire discussion of sterility testing at the conclusion of the chapter. Only content in USP relative to sterility tests will be the harmonized <71>.
- Eliminated the older radiation sterilization guidance & directed reader to ISO standards.
- Sets the stage for future changes.

<1211> Sterility Testing of Lots

"It should be recognized that the referee sterility test might not detect microbial contamination if present in only a small percentage of the finished articles in the lot because the specified number of units to be taken imposes a significant statistical limitation on the utility of the test results. This inherent limitation, however, has to be accepted, because current knowledge offers no nondestructive alternatives for ascertaining the microbiological quality of every finished article in the lot, and it is not a feasible option to increase the number of specimens significantly. For information regarding the conduct of the sterility test please see <71> Sterility Tests."

<1211> Sterilization & Sterility Assurance discussion points

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- Future chapter will address sterilization at a more basic level as an introduction only section.
- Follow with individual chapters on each sterilization method aligning each with the relevant BI chapters.
- Separate gas & vapor sterilization chapter.
- New chapter on liquid sterilization
- Develop Aseptic Processing as a stand alone chapter.
- Update references throughout.

<1211> Sterilization??

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- New definition for overkill sterilization.
- Clarification of the role of the biological indicator in sterilization validation.
- Clarify understanding of PNSU, SAL and risk to patient.

<1116> Microbiological Control & Monitoring of Aseptic Processing Environments

- Presents an entirely new perspective on environmental control relying on incident rates rather than action / alert levels.
- Reflects the uncertainty in microbial recovery especially in the cleanest environments.
- Makes a distinction between environments for aseptic and other cleanroom application (to be covered in a newly developed separate chapter). The new chapter will be patterned after <1116>

<1116> Incidence Rates

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Table 3 Recommended Contamination Incident Rates

Grade	Active air sample	Settle Plate (9cm) 4hr exposure	Contact Plate or Swab	Glove or Garment
Isolator (ISO 5 or better)	<0.1%	<0.1%	<0.1%	<0.1%
ISO 5	<1%	<1%	<1%	<1%
ISO 6	<3%	<3%	<3%	<3%
ISO 7	<5%	<5%	<5%	<5%
ISO 8	<10%	<10%	<10%	<10%

<1222> Terminally Sterilized Pharmaceutical Products – Parametric Release

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- Aligns the guidance with global regulatory expectations.
- Must be aligned with <1211> as it evolves because steam and radiation sterilization are discussed in both chapters.

<1208>Sterility Testing – Validation of Isolator Systems

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- A revised version for publication can be found in 1S to USP 30 (2007).
- This chapter will serve as a foundation for a new chapter on the use of isolators for aseptic processing.

What's on the Horizon?

- <1021> Design and Validation of Isolator Systems for Use in Aseptic Processing
- <XXXX> Microbiological Control & Monitoring of Classified Environments
- <XXXX> Microbial Sampling Time Limits
- <XXXX> Design and Validation of RAB Systems for Use in Aseptic Processing

Questions?

Thank You!