

## Quality Assurance/Assessment and Quality Control

### Quality Assurance/Assessment (QA)

Procedures in pre-analysis, analysis and post-analysis that oversee the entire clinical pathology process with a goal to minimize error and improve laboratory results. <sup>1, 2.</sup>

Common Quality Assurance Procedures include but are not limited to:

- Development and utilization of Standard Operating Procedures for the entire process
- Client and Veterinary-Health-Care-Team initial and ongoing education and communication
- Appropriate patient identification, preparation, evaluation, handling and history collection prior to sample collection
- Proper patient handling, and specimen collection, identification and handling prior to analysis
- Appropriate selection, storage, handling and utilization of supplies, instruments, reagents and quality control materials
- Following the veterinarian's orders for appropriate tests to be performed
- Following of manufacturer's utilization, quality assurance, storage, maintenance, repair instructions
- Utilization of external quality control materials/procedures
- Maintaining logs of quality control results to monitor shifts and trends
- Running complementary tests on the same specimen (ex. blood smear review to complement instrument)
- Utilizing manufacturer's and practice established "flags" indicating the necessity for a review results and repeat testing
- Proper use of appropriate reference intervals
- Documentation of repairs, regulation maintenance, updates, control data, inventory management and storage,
- Proper record maintenance and transfer of information
- Transfer of appropriate information to the client <sup>1, 2.</sup>

### Quality Control (QC)

Procedures that monitor performance of instruments, other types of diagnostic systems (ex. immunology/serology test packs), and veterinary team members to assist in identifying reliability of results. <sup>1, 2.</sup>

#### Internal Quality Controls

Quality control processes that are "built into" the instrument, reagent systems, test packs, rotors, cartridges, slides, strips, and other unit devices to evaluate specific functions of the system, but not necessarily the entire system or the veterinary team member performing the analysis. <sup>1, 2.</sup>

#### External Quality Control

Quality control procedures that are performed by veterinary team member, that is not "built into" the instrument or unit device to evaluate the reliability of results. <sup>1, 2.</sup>

## Quality Control Materials / “Running Controls” / Controls

Materials of known quantity of an analyte used to evaluate the entire process including the veterinary team members, materials and applicable instruments used in the process. Depending on test and analyte, controls may be “true positives”, “true negatives”, high, low or typical analyte levels. These are commercially prepared.<sup>1, 2.</sup>

### In-clinic Quality Control

External and Internal quality control procedures performed in the practice by the practice staff <sup>1.</sup>

### External Quality Assessment / Proficiency Testing

A program where a sample is run by external laboratories in addition to the practice laboratory, and results compared or where samples are supplied by a proficiency testing organization to be analyzed in the practice laboratory with results compared to the proficiency testing organization’s verified results. It must be recognized that different methods of analysis may influence the values, and there is the “individuality” variable even when using the same methods that may influence the results, <sup>1, 2.</sup>

## References

1. American Society for Veterinary Clinical Pathology (ASVCP), *ASVCP Guidelines: Quality Assurance for Point-of-Care Testing in Veterinary Medicine - Version 1.0* Sections 1-3, Appendix, (May 2013). (Section) Pages: (1) 1-2, (2) 5-8, 29-32 52, (3) 13-15, 18-19 Available at: <http://www.asvcp.org/pubs/qas/newQas/PDF/ASVCP%20POCT%20QA%20Guideline%20May%202013.FINAL.pdf>. Accessed: April 15, 2006
2. Barger AM, MacNeill AL, *Clinical Pathology and Laboratory Techniques for Veterinary Technicians*, 2015, Wiley-Blackwell, Ames IA, pp 233-243

### Suggested Reading:

American Society for Veterinary Clinical Pathology (ASVCP), *Principles of Quality Assurance and Standards for Veterinary Clinical Pathology*, 2009. Available at: <http://www.asvcp.org/pubs/pdf/ASVCPQualityControlGuidelines.pdf>, Accessed: April 15, 2006.

Zajac AM, Conboy GA, *Veterinary Clinical Parasitology*, 2012, Wiley-Blackwell, Ames, IA