Checklist for ASVCP Quality Assurance Guideline Section 2, Total Quality Management System (TQMS) (v.3, 2019) [note section 1 is an introduction and does not have a checklist]

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
2.1 Quality Goals for accuracy/effectiveness of lab function that will meet the requirements of users, are defined (pre-determined prior to test evaluation) for the preanalytical, analytical, and postanalytical phases. Goals are evaluated and refined on a pre-determined schedule.	☐ Yes ☐ No	
2.2.1 Size dependent, the lab has a dedicated quality manager or management team as a complete or partial job description. This person(s) has outlined duties and appropriate training to successfully execute the lab's Total Quality Management System (TQMS).	☐ Yes ☐ No	
2.2.2 There is a written quality policy/manual that specifies a commitment to continuous quality improvement and outlines the tenets of lab organization, lab function, and the TQMS. The document is available to all workers, updated as needed, and incorporated into personnel training.	☐ Yes ☐ No	
2.2.3 Annual management reviews of the TQMS are scheduled, and results are shared with laboratory personnel. Time frames for implementation and evaluation of any changes are established.	☐ Yes ☐ No	

2.3, Appendix 1 The laboratory has a catalogue of easily-accessible standard operating procedures (SOPs) for all laboratory processes and procedures.	☐ Yes ☐ No	
2.3, Appendix 1 Laboratory personnel are required to read/sign off on all SOPs pertaining to their job duties, with scheduled document re-review (mandatory upon any SOP update) and formal demonstration of SOP knowledge.	☐ Yes ☐ No	
2.3 All laboratory SOPs are updated upon any procedure/method/instrumentation changes and otherwise reviewed every 1-2 years for accuracy and completeness.	☐ Yes ☐ No	
2.4 Routine quality control procedures are established for all instruments/methods (see section 4 for more detailed guidelines). Identified non-conformities initiate corrective/preventive actions, and clients are contacted as necessary if non-conformities have impacted patient results.	☐ Yes ☐ No	
2.5, 2.6 Periodic internal and external audits/assessments are scheduled, to include enrollment in an external quality assurance (EQA)/proficiency testing (PT) program.	☐ Yes ☐ No	
2.1, 2.4, 2.6, Tables 1,2 Key quality/performance indicators are established for preanalytical, analytical, and postanalytical phases, with regular calculation of the percentage of errors/non-conformities that are compared against predetermined goals.	☐ Yes ☐ No	
2.6 Quality improvement suggestion forms are readily available for all personnel.	☐ Yes ☐ No	

2.2, 2.6 Preventive/corrective actions to eliminate/minimize detected sources of error are implemented continually as necessary and evaluated for effectiveness on a determined schedule. Design and implementation of these actions are made by defined personnel.	☐ Yes ☐ No	
2.2.3, 2.6.1 Feedback surveys are provided to lab personnel and users/clients, and results are shared with laboratory staff and evaluated at management reviews.	☐ Yes ☐ No	

Checklist for Checklist for ASVCP Quality Assurance Guideline Section 3, Preanalytical Factors Important in Veterinary Clinical Pathology (v.3, 2019)

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
3.2 If on staff, a veterinary clinical pathologist and/or other specialists is/are available to clients to offer input on appropriate test selection(s).	☐ Yes ☐ No ☐ N/A	
3.3 Offsite laboratory clients (i.e. not pertaining to private practice in-clinic labs) are provided with a test submission manual that lists sample requirements, appropriate collection and transport procedures, and expected turnaround-time for results.	☐ Yes ☐ No	
3.3 Laboratory clients are advised to ideally have monogastric animals fasted overnight (as permissible by clinical status) for routine hematology/biochemistry, with checkboxes to indicate 'Y/N fasted' on the laboratory submission form.	☐ Yes ☐ No	
3.3 Sample couriers have a means to record and report to the laboratory any incidents during transportation that may affect sample quality or personnel safety. In turn, the laboratory should include this information to the client in the report.	☐ Yes ☐ No	
3.4 Laboratory clients are advised to label all tubes/slides directly with specimen type and unique patient ID, plus anatomic location for cytology slides.	☐ Yes ☐ No	

3.4, 3.5 Accession forms contain filled out areas for: • submitting clinic contacts • date/time of collection • patient ID • complete signalment • sample type/site source • collection method (for urinalysis/cytology) • brief, pertinent history as indicated by sample type (cytology/ histopathology/microbiology) • requested test(s)	☐ Yes ☐ No	
3.4 Any handwritten information on the accession form should be neatly legible.	☐ Yes ☐ No	
3.6 Accession/test information is entered completely into the laboratory information management system (LIS/LIMS).	☐ Yes ☐ No	
3.6 Any problem with sample quality is recorded and communicated to offsite clients and appropriate laboratory staff. Testing is not performed on significantly corrupted samples, with repeat submission requested. If testing of a compromised sample is requested by the client after notification, a disclaimer for extremely cautious interpretation is clearly indicated on the report.	☐ Yes ☐ No	
3.7 Communication between laboratory personnel and clients should be timely and courteous regarding preanalytical factors influencing laboratory test results (e.g., inappropriate test choice for the clinical	☐ Yes ☐ No	

scenario, incomplete submission forms/container labeling, inappropriate sample type or sample handling, poor sample quality, etc.). Feedback from clients to the laboratory should be encouraged. There is a formal system for discharging and evaluating any necessary corrective actions in response to client feedback.		
3.8, 3.9 The laboratory environment is safe and comfortable, organized for workflow, and compliant with biohazard regulations, to include all necessary safety training, posted notices, and personal protective equipment (PPE). Safety training is documented. Appointment of a health/safety officer is recommended.	☐ Yes ☐ No	
3.10 Personnel are adequately trained in laboratory SOPs and have ongoing competency evaluations at appropriate intervals for their area(s) of specialization, with documentation. Appointment of a training manager is recommended.	☐ Yes ☐ No	
3.11 The laboratory information system (LIS) is periodically reevaluated and updated for maximal efficiency. Records are archived for an appropriate time.	☐ Yes ☐ No	
3.12 There is an organized protocol for any send-out testing, to include a clear policy for postanalytical responsibilities of each lab.	☐ Yes ☐ No	

Checklist for ASVCP Quality Assurance Guideline Section 4, Analytical factors Important in Veterinary Clinical Pathology (v.3, 2019)

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
4.2.1 Laboratory water quality electrical power stability, and temperature (to include refrigerator/freezer)/humidity conditions are monitored on a regular schedule.	☐ Yes ☐ No	
4.2.1 Automated balances, pipettes, microscopes, and centrifuges are cleaned/calibrated annually.	☐ Yes ☐ No	
4.2.1 An Instrument Performance Log is created and maintained for each instrument, recording routine and special maintenance/repairs and any other corrective actions taken.	☐ Yes ☐ No	
4.2.2 The laboratory participates in an external quality assessment/proficiency testing program, with results distributed and discussed among laboratory personnel. Inquiry/internal audit is performed if there is an unacceptable deviation from the peer group mean.	☐ Yes ☐ No	
4.3/4.3.9 Appropriate method validation or method verification/transfer studies are performed prior to adopting a new test procedure and/or bringing a new instrument on-line; the choice between full validation and verification matches the specific laboratory situation.	☐ Yes ☐ No	

4.3.1 A reportable range/linearity study is performed for each species to be assayed, if recommended/applicable.	☐ Yes ☐ No ☐ N/A	
4.3.2, 4.3.3 Short-term and long-term replication studies are performed to assess assay imprecision/random error, if recommended/applicable.	☐ Yes ☐ No ☐ N/A	
4.3.4 A comparison of methods study is performed to assess systematic error of the new method compared to the comparison method, if recommended/applicable.	☐ Yes ☐ No ☐ N/A	
4.3.5 An interference study is performed to assess systematic error caused by potential interfering substances, if recommended/applicable.	☐ Yes ☐ No ☐ N/A	
4.3.6 A recovery study is performed to assess potential systematic error caused by substances within the sample matrix, if recommended/applicable.	☐ Yes ☐ No ☐ N/A	
4.3.7 A reference interval study is performed for creation of reference intervals for each species to be assayed, if recommended/applicable.	☐ Yes ☐ No ☐ N/A	
4.3.8 A detection limit study is performed to determine the lowest concentration that can be measured, if recommended/applicable.	☐ Yes ☐ No ☐ N/A	
4.4 Multisite/multi-instrument laboratories should compare test results among various methods, instruments, and/or laboratories to monitor performance and identify deficiencies.	☐ Yes ☐ No ☐ N/A	
4.5 Instrument function checks are performed each day of test use, with identification of possible interferences. Calibration should be	☐ Yes ☐ No	

performed at least every six months and more frequently if indicated.		
4.6 Laboratory personnel have thorough working knowledge of instruments and their use/maintenance and can perform basic troubleshooting/can take appropriate steps with various error messages/flags (see also section 2 for more information on personnel knowledge/training).	☐ Yes ☐ No	
4.7, Appendix 1 A routine quality control (QC) plan is in place (see also following detailed items) to monitor method/instrument performance, with rules and policies established for analysis of QC measurement tools (e.g. Levey-Jennings plots).	☐ Yes ☐ No	
4.7.2 There is proper storage and handling of QC reagents and calibrators.	☐ Yes ☐ No	
4.7.1 Purchased quality control materials should have low, normal, and high levels that are medically relevant for veterinary species.	☐ Yes ☐ No ☐ N/A	
4.7.1, 4.7.3, 4.7.4, Appendix 1, Figures 2 and 3, Table 4 Statistical QC rules, number of control levels analyzed, and QC frequency are chosen to ensure a high probability of error detection (recommended Ped $\geq$ 90%), a low probability of false rejection (recommended Pfr $\leq$5%), and hence a low risk of reporting unreliable final patient results (i.e. results are within quality goals as may be defined by allowable total error/TEa, clinical decision limits, and/or expected biologic variation).	☐ Yes ☐ No ☐ N/A	
4.7.1, 4.7.4, Appendices 1 and 2, Tables 2 and 4 Sigma metrics are calculated for each test from TEa, bias, and coefficient of variation (CV) data,	☐ Yes ☐ No ☐ N/A	

in order to aid determination of which tests require more stringent statistical and non-statistical QC.		
4.7.1, 4.7.4, Appendix 1, Figure 3, Table 4 The potential need for multi-level control rules for individual measurands (with lower sigma), as well as the potential need for multistage QC during a run are assessed.	☐ Yes ☐ No ☐ N/A	
4.7.1, 4.7.4, Appendix 1, Table 2, Figure 2 Non-statistical QC items are employed as applicable for lower throughput labs and/or for any measurands with low sigma performance.	☐ Yes ☐ No	
4.2.1 Accumulated QC data is systematically reviewed on a determined regular schedule (e.g. Levey Jennings plot analysis), and appropriate corrective actions are taken when there are undesirable trends/results outside of control rule parameters. Patient samples are not run/reported until quality control materials are assayed as back “in control”.	☐ Yes ☐ No	

Checklist for ASVCP Quality Assurance Guideline Section 5, Hematology (v.3, 2019)

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
5.1.1 Blood tube additives are appropriate for the species of interest. Tubes are appropriately filled and mixed. Films are prepared in a timely fashion.	☐ Yes ☐ No ☐ N/A	
5.1.2 Films and tubes are labeled with 1-2 unique patient IDs and date of collection. Accession forms contain rDVM and clinic info, date of collection, signalment, and relevant history, including appropriate data (please also see checklist for section 3).	☐ Yes ☐ No ☐ N/A	
5.1.3 Transported whole blood and films are protected from physical damage and extreme temperatures. Films are additionally protected from formalin fumes and condensation. Shipment is expedited to avoid compromising sample integrity.	☐ Yes ☐ No ☐ N/A	
5.1.4 Whole blood and film integrity are inspected prior to testing, and the submitting entity is informed when the specimen is likely to produce erroneous results and/or when resampling is requested.	☐ Yes ☐ No ☐ N/A	
5.1.5 Whole blood samples are mixed to insure homogeneity prior to testing.	☐ Yes ☐ No ☐ N/A	

5.2.1 Quality control policies are established, followed and documented. Hematologic automated assays, calculated indices, and microscopic findings are included in the hematology quality control (QC) process.	☐ Yes ☐ No ☐ N/A	
5.2.1 Hemocytometer-obtained counts are performed in duplicate as a procedural control. Predefined goals for agreement are established, with documentation of deviations, and policies in place for mitigation.	☐ Yes ☐ No ☐ N/A	
5.2.1 Manual or instrument-obtained results are compared with film-derived estimates.	☐ Yes ☐ No ☐ N/A	
5.2.1 Films submitted for review are accompanied by available instrument-derived data.	☐ Yes ☐ No ☐ N/A	
5.2.2 Instruments are monitored for electronic safety, calibration, maintenance and performance, with appropriate documentation. Instrument manuals are readily available.	☐ Yes ☐ No ☐ N/A	
5.3 Specimens are stored under appropriate conditions for a pre-established period, as determined by specimen stability, laboratory policy, and certification/accreditation requirements.	☐ Yes ☐ No ☐ N/A	
5.3 Reports include statements documenting any deviations in sample integrity or testing procedures that may affect the quality of results or interpretation thereof.	☐ Yes ☐ No ☐ N/A	

5.4 Non-mammalian species: 5.4.1 Blood smears are made at the time of collection.	☐ Yes ☐ No ☐ N/A	
5.4.1 Blood sample transport times are appropriate for the species.	☐ Yes ☐ No ☐ N/A	
5.4.1 Anticoagulant additives and formulations are appropriate for the species.	☐ Yes ☐ No ☐ N/A	
5.4.2.1 Laboratory personnel are appropriately trained for the species, and training is documented.	☐ Yes ☐ No ☐ N/A	
5.4.2.1 Reagent preparation for cell-counting diluent includes monitoring quality of reagent grade water and new lot compared with that of previous lot.	☐ Yes ☐ No ☐ N/A	
5.4.2.1 Equipment (e.g., reusable hemocytometers, weighted hemocytometer cover slips, hand tallies, calibrated pipettes, and differential cell counters) used for hematology procedures are in good working order.	☐ Yes ☐ No ☐ N/A	
5.4.2.3 External QA/Proficiency testing of technical staff is performed and documented, and results are within acceptable limits.	☐ Yes ☐ No ☐ N/A	
5.4.2.5 Documented protocols for cell counts include methods where all cells to be counted are visible in the hemocytometer, e.g. RBCs, WBCs, and/or thrombocytes.	☐ Yes ☐ No ☐ N/A	

Checklist for ASVCP Quality Assurance Guideline Section 6, Hemostasis Testing (v.3, 2019)

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
6.1 The laboratory provides written guidance to offsite clients and is prepared to answer questions regarding sample collection and handling.	☐ Yes ☐ No ☐ N/A	
6.1.1.1 The laboratory either specifies one trisodium citrate concentration or has investigated the effect of trisodium citrate concentration on their analyzer and reagent, and as necessary has generated a separate reference intervals for 3.2% and 3.8% trisodium citrate.	☐ Yes ☐ No ☐ N/A	
6.1.1.2 Results from blood tubes filled to <90% of the desired fill volume are released with a warning that underfilling can cause false prolongations.	☐ Yes ☐ No ☐ N/A	
6.1.2 Samples should be checked for clots and clotted samples rejected.	☐ Yes ☐ No ☐ N/A	
6.1.2.1 For plasma-based assays, citrated plasma is separated from whole blood within 6 hours of collection for PT/aPTT, unless aPTT is being used for monitoring of unfractionated heparin, in which case plasma should be separated within one hour.	☐ Yes ☐ No ☐ N/A	
6.1.2.1 Plasma is separated before shipping to a remote laboratory for testing.	☐ Yes ☐ No ☐ N/A	

6.1.2.2 Plasma is separated by centrifugation at 1,500 x g for 15 minutes.	☐ Yes ☐ No ☐ N/A	
6.1.2.2 Centrifuge conditions, including temperature and use of the centrifuge brake, are consistent for all samples.	☐ Yes ☐ No ☐ N/A	
6.1.2.2 Plasma is transferred using a plastic pipette to a plastic, additive-free secondary tube, which is clearly identifiable as containing citrated plasma.	☐ Yes ☐ No ☐ N/A	
6.1.2.3 Whenever possible, plasma is analyzed within 1 hour of separation. If this is not achievable, the laboratory may follow storage recommendations established by in-house investigation or the recommendations herein. These allow plasma storage for up to 24 hours at room temperature or 4^{o}C for in-house specimens; storage at 4^{o}C and shipping same-day/overnight on ice for mail-in specimens that will be analyzed within 24 hours of patient collection; or, freezing followed by shipping overnight on ice for mail-in specimens that will not be analyzed within 24 hours of patient collection.	☐ Yes ☐ No ☐ N/A	
6.1.2.3 If frozen specimens are accepted, plasma is thawed for 5 minutes (or until full thaw) in a 37^{o}C water bath before analysis.	☐ Yes ☐ No ☐ N/A	
6.2.1 If aPTT is used for unfractionated heparin monitoring, the therapeutic range should be established using at least 20 samples from patients receiving unfractionated heparin. If this cannot be achieved, users requesting aPTT are advised that fold changes in aPTT do not	☐ Yes ☐ No ☐ N/A	

necessarily predict achievement of therapeutic targets.		
6.2.1 International Normalized Ratio (INR) is not provided (not validated in veterinary species).	☐ Yes ☐ No ☐ N/A	
6.2.2 The laboratory has a written policy defining the responses to out-of-range results and samples with interferences, including the triggers for use of confirmatory or alternative methods.	☐ Yes ☐ No ☐ N/A	
6.2.2 Water baths are regularly checked to ensure the desired temperature is achieved.	☐ Yes ☐ No ☐ N/A	
6.2.3 Personnel are aware of the potential urgency of coagulation test requests and the requirement to inform clinical staff as soon as possible if a redraw is required.	☐ Yes ☐ No ☐ N/A	
6.2.3 Personnel can provide information about the extent to which methods have been validated for commonly used therapeutics; likely magnitude of effect of common pre-analytical errors; likely causes of abnormalities; and, can provide recommendations for follow up testing.	☐ Yes ☐ No ☐ N/A	
6.2.4 For reference instruments, a minimum of 1 level of control material is assayed in each shift during which a coagulation test is requested. Ideally, two levels of control are assayed in every shift.	☐ Yes ☐ No ☐ N/A	
6.2.4 If manual (i.e. tilt tube) testing is performed, a minimum of one normal control is assayed at the same time as the patient sample. Control(s) and patient samples are assayed in duplicate, and criteria are defined for the acceptable difference between duplicates.	☐ Yes ☐ No ☐ N/A	

6.2.4 If laboratories are reporting assays as a percentage of normal pooled samples, procedures are in place to confirm that new pools generate acceptable results. Stability and handling conditions for pooled plasma are established by in-house experimentation.	☐ Yes ☐ No ☐ N/A	
6.2.5 Users are provided with advice, and where feasible, assistance to ensure correct sample collection and handling for outsourced tests.	☐ Yes ☐ No ☐ N/A	
6.3 If batched analysis is performed, the timing of analysis is available to users.	☐ Yes ☐ No ☐ N/A	
6.3 Wording for results reporting is clearly specified, including reporting of out-of-reportable range results and as applicable, the clear differentiation of patient results from simultaneously assayed control samples.	☐ Yes ☐ No ☐ N/A	
6.3 If multiple coagulation instruments are available within one institution, client education and written guidance are available regarding the variability in coagulation results generated by different instrument/reagent combinations.	☐ Yes ☐ No ☐ N/A	

Checklist for Guideline Section 7, Crossmatching

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
7.1 Identification information on submission form/orders matches that of sample(s).	☐ Yes ☐ No ☐ N/A	
7.1 Specimens from recipient and donor(s) are clearly labeled with date, species, animal or donor identification, and donor blood type.	☐ Yes ☐ No ☐ N/A	
7.1 History of a prior transfusion date(s) is provided.	☐ Yes ☐ No ☐ N/A	
7.1 Sera and plasma samples are examined for hemolysis upon harvest. Samples hemolyzed beyond accepted limits for the procedure are rejected and documented.	☐ Yes ☐ No ☐ N/A	
7.1 Whole blood and serum/plasma specimens are stored at 1-6°C when not in use.	☐ Yes ☐ No ☐ N/A	
7.2.1 Crossmatching SOP(s) exist and are readily available.	☐ Yes ☐ No ☐ N/A	
7.2.2 Autocontrols and steps to manage or minimize false positive and negative results are included with the crossmatch.	☐ Yes ☐ No ☐ N/A	
7.3 Reports clearly indicate date/time of specimen collection, species, and identification of the animal patient and each donor against which a crossmatch has been performed.	☐ Yes ☐ No ☐ N/A	
7.3 Reports clearly indicate whether each donor was found compatible or incompatible with the	☐ Yes ☐ No ☐ N/A	

patient, type and strength of incompatibility, with the date/time of completion.		
7.3 Sera/plasma and whole blood or packed red cells are retained for potential follow-up testing.	☐ Yes ☐ No ☐ N/A	

Checklist for ASVCP Quality Assurance Guideline Section 8, Urinalysis (v.3, 2019)

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
8.1.1 Sample collection, storage and transport recommendations are readily available to offsite clients.	☐ Yes ☐ No ☐ N/A	
8.1.1 Clients are advised to clearly mark the urine collection method in the designated section of the laboratory submission form.	☐ Yes ☐ No ☐ N/A	
8.1.1 Urine is collected into new, clean containers and promptly covered securely.	☐ Yes ☐ No ☐ N/A	
8.1.1, 8.1.2 Urine samples that will be analyzed >30 min. after collection are placed in the refrigerator and protected from UV light.	☐ Yes ☐ No ☐ N/A	
8.1.1 A direct or sediment smear is made from fresh urine and submitted with the urine sample if urinary tract disease is suspected. The smear is specified as direct or concentrated.	☐ Yes ☐ No ☐ N/A	
8.1.2 Urine samples for which crystalluria is a clinical concern are examined within 30 minutes of collection.	☐ Yes ☐ No ☐ N/A	
8.1.2 Refrigerated urine samples are brought to room temperature before analysis.	☐ Yes ☐ No ☐ N/A	

8.1.2 Sediment examination of refrigerated urine samples takes place within 4 hours of sampling.	☐ Yes ☐ No ☐ N/A	
8.1.2 Dipstick examination of refrigerated urine samples takes place within 24 hours of sampling.	☐ Yes ☐ No ☐ N/A	
8.1.3 Urine samples intended for culture are aliquoted before any other urinalysis procedures take place and are stored in the refrigerator or at cool ambient temperatures in plain or serum tubes for a maximum of 24 hours.	☐ Yes ☐ No ☐ N/A	
8.1.3 Urine samples intended for microbiology which cannot be refrigerated or stored at cool ambient temperatures are placed into boric acid tubes and analyzed within 24 hours.	☐ Yes ☐ No ☐ N/A	
8.2.1, 8.2.3, 8.2.5 Manufacturers' instructions are followed for all equipment. Calibration, maintenance and performance logs are kept (to include refractometer, stainers, centrifuges, dipstick readers, sediment analyzers, and microscopes).	☐ Yes ☐ No ☐ N/A	
8.2.2, 8.2.3, 8.2.5 Method validation and routine QC are performed on instruments used in urinalysis. Laboratory personnel are knowledgeable regarding the operation, principle of measurement, and the potential errors associated with these measurements.	☐ Yes ☐ No ☐ N/A	
8.2.4.1 Laboratory personnel have knowledge of preanalytical aspects of urinalysis.	☐ Yes ☐ No ☐ N/A	

8.2.4.2 Laboratory personnel are aware of species differences and normal findings for urine appearance, specific gravity, dipstick, and sediment findings.	☐ Yes ☐ No ☐ N/A	
8.2.4.3 Laboratory personnel have knowledge of the different analytical methodologies employed in urinalysis and common analytical errors for the methods.	☐ Yes ☐ No ☐ N/A	
8.2.4.4 Laboratory personnel understand when to repeat urinalysis tests or when use a confirmatory method, as detailed in an SOP.	☐ Yes ☐ No ☐ N/A	
8.2.5.1 An organoleptic (gross) urine evaluation, consisting of a description of odor, color, and turbidity, should be performed at the start of urinalysis.	☐ Yes ☐ No ☐ N/A	
8.2.5.2 Refractometers are calibrated regularly with distilled water.	☐ Yes ☐ No ☐ N/A	
8.2.5.3 Dipsticks are within expiry date and are kept in their original containers with the desiccant and with the lid firmly sealed.	☐ Yes ☐ No ☐ N/A	
8.2.5.3 Results from the leukocyte, specific gravity, nitrate, and urobilinogen dipstick pads are not reported.	☐ Yes ☐ No ☐ N/A	
8.2.5.3 Positive reactions for protein are followed by a UP:C if pre- and post-renal causes of proteinuria have been eliminated.	☐ Yes ☐ No ☐ N/A	
8.2.5.5, 8.2.5.6 Urine sediment is consistently evaluated using standardized methods for preparation, staining, and enumeration of elements.	☐ Yes ☐ No ☐ N/A	

8.2.5.7 A stained, air-dried sample is examined if there is a clinical suspicion of urinary tract infection or neoplasia, or if pyuria, bacteriuria, or atypical cells are seen in the sediment.	☐ Yes ☐ No ☐ N/A	

Checklist for ASVCP Quality Assurance Guideline Section 9, Cytology, Fluid Analysis, and Immunocytochemistry (v.3, 2019)

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
9.1.1, 9.1.1.2 Cytology submission guidelines are provided to offsite laboratory clients (i.e. not pertaining to private practice in-clinic labs), to include optimal sample and fixation technique/transport media for immunocytochemistry (ICC).	☐ Yes ☐ No ☐ N/A	
9.1.1 Submission recommendations include minimizing ultrasound/lubricant gel on skin, lesion surface, and/or on/in the collection instrument.	☐ Yes ☐ No ☐ N/A	
9.1.1, 9.1.1.2 Submission recommendations include packaging/transport of slides in a manner that minimizes temperature and humidity fluctuations.	☐ Yes ☐ No ☐ N/A	
9.1.1 Submission recommendations include adequate protection from formalin fumes (shipping cytol./histol. samples in completely separate packages/mailings and not in different plastic bags within the same box).	☐ Yes ☐ No ☐ N/A	
9.1.1.1 Submission recommendations include providing 1-2 direct smears with any fluid tubes (excepting CSF), labeled as direct on the slide(s).	☐ Yes ☐ No ☐ N/A	
9.1.2 Submission recommendations include directly labeling glass slides with patient ID and	☐ Yes ☐ No ☐ N/A	

site source (avoiding labeled containers with unlabeled slides).		
9.1.2 (see also 3.4, 3,5) Clients are advised re possible sample rejection if cytology accession form is not legible or does not contain the following: ● Unambiguous/anatomically correct site source ● Gross description/imaging findings ● Method of collection (e.g. needle v. direct impression v. swab)	☐ Yes ☐ No ☐ N/A	
9.2.1, 9.2.3, 9.2.6 Manufacturers' instructions are followed for all equipment, and instrument performance and maintenance logs are kept (to include stain, stainers, centrifuges, hemocytometers, and microscopes).	☐ Yes ☐ No ☐ N/A	
9.2.2, 9.2.3 Method validation and routine QC are performed on instruments measuring biochemical analytes in fluid samples. Laboratory personnel are knowledgeable regarding the operation, principle of measurement, and the potential errors associated with these measurements.	☐ Yes ☐ No ☐ N/A	
9.2.4 Laboratory personnel are trained to applicable portions of fluid analysis such as gross interpretation, cell count generation, protein measurement, slide preparation, and/or staining. Lab personnel make direct smears from fluid with an intact feathered edge.	☐ Yes ☐ No ☐ N/A	
9.2.5 Cytology reports are clear and concise, with an explanation of any modifiers regarding interpretive probability, and with comments	☐ Yes ☐ No ☐ N/A	

regarding any recommended course(s) of action as applicable.		
9.2.6 The laboratory participates in internal and external QA programs with blind cytology cases.	☐ Yes ☐ No ☐ N/A	
9.3 Immunocytochemistry stains are verified with positive and negative controls and are verified for repeatability.	☐ Yes ☐ No ☐ N/A	
9.3.2 Immunocytochemistry reagents, antibodies, and strainers are maintained via manufacturers' instructions.	☐ Yes ☐ No ☐ N/A	
9.3.3 Internal and external audits for immunocytochemistry include comparison of methods/kits for the same antigen, review of select cases by several pathologists, and comparison of ICC results with immunohistochemistry, flow cytometry, and/or EQA programs as available.	☐ Yes ☐ No ☐ N/A	
9.4 A second opinion option is available as deemed appropriate by the client or by the pathologist.	☐ Yes ☐ No ☐ N/A	
9.4 Cytopathologist pursues case follow up (e.g. any ordered histopathology, flow cytometry, PCR, as well as case outcome).	☐ Yes ☐ No ☐ N/A	

Checklist for ASVCP Quality Assurance Guideline Section 10, Endocrinology and Immunoassays (v.3, 2019)

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
10.1.2.1 Clients are advised that a single hormone measurement is usually insufficient for a clinical endocrinopathy diagnosis.	☐ Yes ☐ No ☐ N/A	
10.1.2.2 Clients are advised to order endocrine tests with consideration to index of suspicion for an endocrinopathy and the presence of any other underlying disease(s); the endocrinology laboratory submission form has a dedicated section(s) for these items (i.e. brief, relevant history).	☐ Yes ☐ No ☐ N/A	
10.1.2.3 Clients are advised that drugs (such as medications and owner-hormone replacement therapy exposure) may impact test results/interpretation; the endocrinology laboratory submission form has a section asking for listing of current/recent treatment(s) (name, dose, frequency, duration) and potential exposure to topical human hormone replacement therapy.	☐ Yes ☐ No ☐ N/A	
10.1.3 The written/electronic laboratory test protocols for clients provide: • the test indication(s) (and desired timing, as applicable) • product dose/administration for each dynamic test	☐ Yes ☐ No ☐ N/A	

• sample requirements (serum v. other, minimal volume, etc.) • number of samples and timing, as applicable • submission modalities (tubes, handling, shipping)		
10.2.2 The client is informed, upon request, of the specific technique(s) employed for each immunoassay (e.g. competitive versus noncompetitive) and the signal involved (radioactivity, chemiluminescence, fluorescence, or enzymology).	☐ Yes ☐ No ☐ N/A	
10.2.2.2 For radioactive assays, all regulations are posted and followed regarding staff training, protective equipment, radioactivity monitoring, and proper waste disposal.	☐ Yes ☐ No ☐ N/A	
10.2.3 Each immunoassay (IA) used in the laboratory is properly validated in each species for which it is used.	☐ Yes ☐ No ☐ N/A	
10.2.4 The analytical performance goals, expressed separately for imprecision and bias, or as TEa, should be determined for each endocrine immunoassay.	☐ Yes ☐ No ☐ N/A	
10.2.5 Special issues related to IA such as prozone/postzone effects, antibody interference, and cross-reactivity should be investigated in case of a discordant result.	☐ Yes ☐ No ☐ N/A	
10.2.6.1 Each IA is properly calibrated, as needed, based on the assay method and QC results. Calibration materials are properly stored, and daily record of use are maintained for traceability.	☐ Yes ☐ No ☐ N/A	
10.2.6.2 Quality control materials (QCM) are selected/generated, properly stored, and used daily.	☐ Yes ☐ No ☐ N/A	

Records are kept for quality control measurements for each IA on a spreadsheet and a Levey-Jennings chart.		
10.2.6.2 A proper quality control strategy (QC rules) and QC Validation are determined and documented for each IA, with criteria for rejection.	☐ Yes ☐ No ☐ N/A	
10.2.6.2 Each failure of QCM for the chosen QC rules is recorded, and corrective and preventive actions are implemented and documented. QCM is re-evaluated following corrective actions before testing of patient specimens.	☐ Yes ☐ No ☐ N/A	
10.2.6.3 External quality assurance (EQA) is ideally performed at a minimum of four times per year, and records of results, as well as any necessary corrective and preventive actions, are kept for a predetermined period of time.	☐ Yes ☐ No ☐ N/A	
10.3.1 Results are communicated to the client in a timely manner, in a clear presentation, with units, reference intervals, and an optional report/interpretation chart.	☐ Yes ☐ No ☐ N/A	
10.3.2 Laboratory clients are advised that endocrinology results are interpreted in light of complete case data, potential medication interferences, and knowledge of hormone physiology/pathophysiology.	☐ Yes ☐ No ☐ N/A	

Checklist for ASVCP Quality Assurance Guideline Section 11, Protein electrophoresis and Electrophoresis-based Immunotyping (v.3, 2019)

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
11.1.1 Submission guidelines are provided to client, to include preferred sample type and handling instructions.	☐ Yes ☐ No ☐ N/A	
11.1.1 Submission form is legible and contains the following: ● Complete signalment & relevant history/indication for electrophoresis testing ● Sample type (serum vs. plasma)	☐ Yes ☐ No ☐ N/A	
11.1.1.1 Sample and submission recommendations for cases with cryoglobulinemia are available in writing or by phone.	☐ Yes ☐ No ☐ N/A	
11.1.2 Samples are stored appropriately prior to, during, and after testing.	☐ Yes ☐ No ☐ N/A	
11.2.1, 11.2.5 Manufacturers' instructions are followed for all equipment; instrument performance and maintenance logs are kept (to include refractometers, biochemistry analyzers, electrophoresis units, stainers, and scanner/detection equipment).	☐ Yes ☐ No ☐ N/A	
11.2.2, 11.2.3 Method validation and routine QA/QC are performed on instruments.	☐ Yes ☐ No ☐ N/A	

11.2.4 Laboratory personnel are knowledgeable regarding the pre-analytical concerns, species and age differences, principles of method performance and operation, and the potential errors associated with these measurements, including appropriate retest/confirmatory test policies.	☐ Yes ☐ No ☐ N/A	
11.2.5, 11.1.3 Non-statistical QA practices occur for immunotyping procedures, including performance of the assay by well-qualified individuals and confirmation of results by a pathologist.	☐ Yes ☐ No ☐ N/A	
11.2.5.1.2 Control samples (commercial QCM, assayed pooled normal serum/plasma) are included in each electrophoresis run.	☐ Yes ☐ No ☐ N/A	
11.2.5 Employed techniques can be expected to resolve two beta peaks (high resolution electrophoresis).	☐ Yes ☐ No ☐ N/A	
11.3 Pathologist-generated reports are clear, concise, and employ nomenclature consistently.	☐ Yes ☐ No ☐ N/A	
11.3 Client reports include appropriate data, including an image of the gel (if gel-based methods are used), electrophoretogram and immunotyping (if performed), any derived quantitative data, and any appropriate comments.	☐ Yes ☐ No ☐ N/A	

Checklist for ASVCP Quality Assurance Guideline Section 12, Postanalytical Factors Important in Veterinary Clinical Pathology (v.3, 2019)

The purpose of these checklists is to facilitate guideline implementation/practical application and may be further detailed in laboratory-specific standard operating procedures (SOPs). The numbers in the first column correspond to the section numbers in the guideline. The N/A option (listed here only for applicable items) should only be employed for items not pertaining to the laboratory, with an explanation in the additional comment box.

Guideline Recommendation	Compliant?	Additional Comment(s) by Auditor
12.1 There is an established procedure (SOPs) for appropriate review of data generated in the laboratory, with particular attention to results from any testing methods which have required recent analytical troubleshooting, implausible results, data drifts, and results with critical clinical significance.	☐ Yes ☐ No	
12.2, 12.3 Data and reports are presented in a standard format, with appropriate accessioning and contact information, and with appropriate reference intervals/decision limits/previous patient data.	☐ Yes ☐ No	
12.2, 12.3 Critical/life threatening values (once re-run/validated) are communicated to the clinician immediately, and this communication (or any telephone reporting) is recorded in written/electronic format.	☐ Yes ☐ No	
12.3 Report formats are designed for each type of test performed and are clearly organized to minimize the possibility of misunderstanding. Reports are archived for a specified time.	☐ Yes ☐ No	
12.3.1 A list of send-out tests and the laboratory to which they are sent should be available to clients upon request.	☐ Yes ☐ No ☐ N/A	

12.3.2 Suspect inaccuracies have a comment on the report that clearly states which value(s) may be inaccurate/misleading for interpretation, with explanation.	☐ Yes ☐ No	
12.3.3 For external clients, reports generated are delivered to the appropriate client in a predefined, timely manner. There is a detection mechanism for report transmission failure.	☐ Yes ☐ No ☐ N/A	
12.4 Any interpretive comments attached to lab results are periodically reviewed and updated as needed to reflect any testing or reference interval changes/improvements.	☐ Yes ☐ No ☐ N/A	
12.5 Specimens, slides, data, and reports are stored under appropriate conditions and for an established period defined by biologic stability, laboratory policy and/or certificate/accreditation requirements.	☐ Yes ☐ No	
12.6 Materials and samples will be disposed of appropriately and safely.	☐ Yes ☐ No	
12.6 Previous versions of laboratory documents will be eliminated or permanently archived in a way that prevents that prevents in advertent circulation and use of obsolete operational documents.	☐ Yes ☐ No	
12.7 Laboratory spaces and equipment are clean, organized, and well-maintained, with logs to record cleaning/maintenance activities.	☐ Yes ☐ No	
12.8 The laboratory shall maintain a complete reagent and supply inventory with approved suppliers.	☐ Yes ☐ No	
12.2, 12.9, Table 2 For larger labs, key quality indicators for the post-analytical phase are identified and tracked, with number/percentage of	☐ Yes ☐ No	

errors/non-conformities evaluated at routine intervals against pre-defined goals. Preventive and corrective actions are taken as appropriate to decrease/minimize errors, with scheduled periodic review to assess their effectiveness. Smaller laboratories may keep an incident log.		