benefits of PACS has been documented in the literature, quality assurance demonstrations of the blood volume returned to veteran patients undergoing surgeries with a high likelihood of significant blood loss are sparse; thus, we present the quality assurance study of PACS usage in a VAMC.

Methods: Quality assurance documentation from the American Red Cross (ARC) that provides autologous cell salvage services at the VAMC were examined from February 2017 to August 2018, for a total of 17 months examined. The procedure, estimated blood loss, and volume returned was documented as part of a quality assurance/improvement project. The volume returned was compared to the typical RBC volume (~250 mL) within a packed red blood cell volume (~350 mL).

Results: A total of 44 procedures took place corresponding usage of PACS. Of these 44 procedures, 15 had no estimated blood loss, and an additional 10 had too little estimated blood loss (<250 mL) for blood volume to be returned. Among the procedures with blood loss, an average of 864 mL of blood was lost (1230 mL when the low blood loss cases are excluded) with an average volume returned of 511 mL or the approximate equivalent of 2 units of RBCs when utilized. Two cases with significant estimated blood loss (5400 mL and 4850 mL) had 2250 mL and 2125 mL or about the equivalent of 9 RBC units each. The total volume returned to all patients was 9700 mL, or the equivalent RBC volume of 38-39 RBC units.

Conclusion: PACS is a procedure that can rapidly provide large quantities of autologous blood in surgeries with significant risk of bleeding. Blood salvage avoids or reduces the risks of allogeneic blood transfusion and reduces cost to the transfusion service as the autologous blood loss would not need to be replaced with allogeneic blood transfusions. PACS in the VAMC returned significant blood volumes to patients undergoing procedures with high risk of blood loss, therefore reducing allogeneic blood transfusion requirements in the veteran population.

What's in a Name? Comparative Analysis of Laboratory Test Naming Guidelines as Applied to Common Confusing Test Names.

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Introduction/Objective: Laboratory test names frequently do not enable easy understandability or promote correct test utilization, which leads to difficulty for providers in finding the correct test and results in unnecessary cost and medical errors. Laboratory test names are also largely unstandardized and are not named by a consistent set of conventions. To address these issues, the TRUU-Lab (Test Renaming for Understanding & Utilization) initiative aims to generate a consensus test naming guideline for better human understandability of laboratory test names. These studies address the first aim of the TRUU-Lab initiative: to identify root causes and challenges in understanding and using laboratory test names.

Methods: We conducted survey studies to capture the most problematic laboratory test names, then performed analysis of these names to identify aspects of these names that led to confusion among providers. A subset of these test names were used to evaluate five existing laboratory test naming guidelines (LOINC, ONC TigerTeam, Pan-Canadian iEHR Viewer Name, Standards for Pathology Informatics (Australia), and ARUP Laboratories internal style guides) for their ability to produce understandable test names.

Results: 274 survey responses yielded ~100 unique laboratory tests cited as confusing, and highlighted substantial diversity both in the names of these tests between institutions and in respondent opinion on the best alternative names. The top 10 most commonly-cited tests yielded ≥ 3 unique names, and the top 2 tests (Vitamin D and anti-factor Xa) yielded ≥ 10 unique names. Post-survey analysis identified eight characteristics associated with poor understandability of a test name, including ambiguity, abbreviations, homophones, multiple indications for a single test, proprietary names, synonyms, truncation, and "panels" where components are obfuscated. Existing guidelines produced highly variable names given the same prompt, and varied in their ability to avoid pitfalls associated with poor understandability.

Conclusion: These studies highlight aspects of existing laboratory test names that lead to confusion among ordering providers, and identify the inability of existing laboratory test naming practices to adequately address these issues. Efforts are ongoing within TRUU-Lab to use these results to inform novel laboratory test naming guidelines to promote universal human understandability.

In-House Viral Transport Medium (VTM) Manufacture in the Time of Shortage, Supply and Crisis of COVID-19 at Veteran Affairs Medical Center (VAMC)

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Introduction/Objective: With the outbreak of COVID-19 caused by SARS-CoV-2, there have been challenges in the maintenance of adequate supplies both in terms of PPE and for testing. The shortage of commercial VTM for the transport of specimens for PCR testing has created a situation in which laboratories would need to manufacture their own in-house VTM as commonly used commercial VTM is unavailable. However, there is sparse literature on the emergency manufacture of VTM. Here, we describe the VAMC experience in manufacturing/quality control on its own VTM.
Results: VTM was manufactured by pathology and laboratory medicine using strict aseptic technique with Hanks Balanced Salt Solution (HBSS) 500 ml bottle with phenol red, sterile heat-inactivated fetal bovine serum (FBS) gentamicin sulfate (50 mg/mL) and amphotericin B (250 ug/ml). First, 50 ml of amphotericin B and 50 ml of gentamicin sulfate were mixed. Then 10 ml of FBS was mixed with the HBSS bottle and then 2 ml of the gentamicin/amphotericin B mixture was also mixed into the HBSS bottle. 3 ml aliquots were made from this mixture to constitute individual tubes of VTM for clinical use. Sterility for each batch (after 24-hour incubation at 37o C in the CO2 incubator) was assessed visually and by culture on a blood agar, chocolate agar, and thioglycolate mediums. An efficacy check was performed for each batch by spiking positive and negative controls into the VTM aliquots; RT-PCR for SARS-CoV-2 was executed to verify the medium did not degrade viral RNA and produced expected results for room temperature, refrigerated, and frozen samples. Previously manufactured VTM without phenol red also underwent sterility and efficacy checks.
Results: VTM was successfully manufactured in-house, allowing testing to continue despite the shortage. Sterility and efficacy checks on all lots and bottles from which the VTM aliquots were made passed with no growth detected and efficacy passing with all expected positives and negatives resulting as expected.
Conclusion: To the author's knowledge, this represents the first published abstract on VTM manufacture in this most unprecedented crisis involving COVID-19. In this national emergency with corresponding shortage of testing supplies including commercial VTM, the in-house manufacture of VTM is both feasible and prudent to ensure continuity of testing and quality patient/laboratory care.

Adequacy And Rate Of Atypical Cytology On Fine Needle Aspiration Technique Using Suction (FNA-S) – A Quality Assurance Study At CMCVAMC.

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Introduction/Objective: Thyroid cancer is one of the most common prevailing conditions. Both genetic and environmental risk factors play a role in causation of thyroid cancers, with agent orange being the most documented risk factor in Veteran patient population. Based on the ultrasonographic appearance, thyroid nodules can be further investigated by minimally invasive fine needle cytology. This can be done by either of two available techniques, Fine needle aspiration with suction (FNA-S) and Fine needle capillary cytology without using suction (FNC), depending upon the preference of practicing endocrinologist. We aim to compare both cytology techniques for comparing the diagnostic yield and rate of atypia of undetermined significance (AUS) or Follicular lesion of undetermined significance (FLUS), requiring repeat FNA in approximately three months.
Methods: Retrospective study was conducted by searching the cases performed by an endocrinologist at Corporal Michael J Crescenz VA Medical Center between the period of January 1, 2015 and July 2, 2015. 30 nodules from 11 patients were tested by Fine needle capillary cytology technique (FNC). Yield for the diagnosis with rates of atypical (AUS) cytology were compared. On second set of the 29 patients with 38 nodules, both techniques - FNA-S versus FNC were carried out. Adequacy and rate of AUS/FLUS were calculated.
Results: Out of 30 total nodules performed by fine needle aspiration (FNA-S), all cases yielded diagnostic material. Of them, 14 (46.6%) were diagnosed as AUS and 16 (53.33%) were benign. On the follow-up/re-aspiration by FNC technique, all these 14 nodules were diagnosed benign. On second set of patients on whom both techniques (FNA-S and FNC) were used alternatively, 13 of 38 nodules (34.21%) were diagnosed as AUS/FLUS, 23 (60.52%) were benign/nodular goiter and 2 were non-diagnostic/inadequate (5.2%).
Conclusion: FNA-S (with suction) yields adequate diagnostic material, however, also has greater number of atypical cytology results requiring repeat patient visit which may increase morbidity with a burden on total health care cost.
FNC (without suction) has low rates of AUS/FLUS, is diagnostically superior with excellent smear quality, less blood clots, time savings, and less inconvenience of patients/physician. FNC (without suction) is a modality of choice for an effective screening of thyroid nodules in veterans.

Utility Of Ebus-Tbna In Diagnosis And Staging Of Lung Nodules In The Setting Of Known Second Malignancy In Veterans - A Quality Assurance Study

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