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Merry Christmas from all of us at Northern Plains Laboratory

Rapid HIV Sample Type

By Ron Piatz, Research and Development

Northern Plains Laboratory has replaced our current Rapid HIV test kit. With this change, the preferred specimen type will be EDTA whole blood. The EDTA whole blood is stable at 2º-30ºC (36º-86ºF) for up to 5 days. This Rapid HIV assay is intended for occupational exposure use only. For routine HIV screening consider test codes HIVCA (EDTA plasma) or HIVAI (serum sample).

NOTE: Reactive samples are referred to ARUP for confirmatory testing. Additional charges may apply.

For additional testing information, please contact NPL at 701-530-5700 or 1-800-645-1003.

Test Code	CPT Code(s)	Test Name	Specimen	Reference Range
HIVR	86703	HIV, Rapid	EDTA Whole Blood	Negative

Quality Corner- Pre-Analytical Error Reduction

By Rhonda Burgard, Client Services Supervisor

The pre-analytical process in laboratory medicine includes test ordering, patient identification, specimen collection and labeling, specimen processing, transport and storage. Although the estimated error rate in the laboratory is very low (0.33%), the lowest in diagnostic medicine, pre-analytical errors account for 75% of all mistakes.

Test ordering is the first step in the pre-analytical process. Ordering the wrong test can delay patient treatment and increase costs. The laboratory should review their test requisitions or electronic order sets for confusing or misleading test names. Monitor ordering of expensive send-out tests and duplicate orders. Educate providers on the available resources for test ordering including:

1) Northern Plains Laboratory Test Catalog at www.northernplainslab.com
2) ARUP Test Catalog and ARUP Consult at www.aruplab.com.
3) Mayo Test Catalog and Mayo test algorithms at www.mayocliniclabs.com.

The specimen collection process begins with patient preparation including (as required) fasting instructions, dietary restrictions, and timing of sample collection.

Staff collecting specimens must be adequately trained and demonstrate on-going competency. Patient identification is the single most important step in the pre-analytical process. Incorrectly identifying a patient or mislabeling a sample can have severe consequences since laboratory test results are used in over 75% of treatment decisions. Patients should be asked to state their full name and date of birth. When available, hospital wristbands and barcode scanners can significantly reduce the chance of patient misidentification. Blood collection tubes should never be pre-labeled. Label all specimens at the patient bedside and ask the patient to confirm the identification on the specimen containers.

Improper venipuncture techniques can lead to erroneous results. Before collecting a specimen, know which tube types are required. Be aware of the proper order of draw for specimen tubes and follow directions for proper mixing of samples. Leaving the tourniquet on the patient arm for > 2 minutes can cause erroneous chemistry results. Drawing above an IV can contaminate the specimen. Inadequate fill (under filled) volumes for coagulation specimens can cause prolonged test results. Hemolysis and clotting of samples can also cause inaccurate results. Rejection of improperly collected specimens delays patient care.

The proper transport and storage of samples is very important. Some samples must be protected from light. Others, must be processed/centrifuged immediately (within 1-2 hours) and stored at the appropriate temperature.

Monitoring the pre-analytical process for errors and working with staff to reduce errors can provide for more accurate and timely patient test results and lower healthcare costs.

Reference: COLA inSIGHTS, Spring 2019

RPR test notification

By Ron Piatz, Research and Development

Northern Plains Laboratory (NPL) has replaced our current manual Rapid Plasma Reagin (RPR) test method with an automated RPR method performed on the Gold Standard Diagnostics (GSD) AIX1000. Reactive RPR samples will be reflexed to RPR titer and TP-PA confirmation. The RPR titer will be performed at NPL on the same automated platform. Confirmation TP-PA testing will be sent to ARUP Laboratories.

Specimen:
0.5 mL (min 0.3 mL) serum. Serum is stable for up to seven days at 2 to 8°C. If longer storage is required, specimens should be stored frozen at -20°C or below for up to 14 days.

For additional testing information, please contact NPL at 701-530-5700 or 1-800-645-1003.

Test Code	CPT Code(s)	Test Name	Spec	Reference Range
RPR If RPR is reactive the following reflex tests are added: **RPRQT** (RPR Titer) & **TPPA** (RPR Conf.)	86592 If reflexed add: 86593 & 86780	RPR (Syphilis Serology) with Reflex	0.5 mL serum	Nonreactive

Computer System Updates

By Rhonda Burgard, Client Services Supervisor

Changes to your firewall, electronic medical record (EMR) or laboratory information system (LIS) may impact connectivity with the interface to the NPL Connect (HVR) order entry and result return system.

Please remember to notify the Northern Plains Laboratory IT department prior to making the following changes:

- A change in LIS or EMR vendor
- A LIS or EMR software upgrade
- LIS or EMR failure or planned downtime.
- A change or failure of the firewall used to support your LIS or EMR
- A physical location move of your facility.

The NPL IT department may be reached at 1-800-659-0395.

AABB Recommendations on the Use of Group O Red Blood Cells

By Rhonda Burgard, Client Services Supervisor

The American Association of Blood Banks has recommended the following practices to decrease the over-reliance on group O Rh (D) negative red blood cells (RBC's):

- Group O Rh(D) negative RBC's should be reserved for three cohorts of females of childbearing potential: those who are group O Rh(D) negative, those who are Rh(D) negative requiring transfusion when type-specific blood is unavailable, and those of unknown blood type who require RBC's before the completion of pre-transfusion testing.
- Hospital transfusion services should closely monitor the utilization of group O Rh (D) negative inventory. Policies should be developed that describe when patients should be switched to Rh(D) positive RBC's to avoid depletion of the Rh(d) negative supply.
- Hospitals should have protocols to expedite sample collection to quickly switch patients to type-specific blood upon completion of pre-transfusion testing.

Using Rh (D) positive RBC's in Rh (D) negative male and post-menopausal females is generally a safe practice. The risk of alloimmunization is 21-26% in the case of hemorrhage, but the risk decreases to 3-6% for patients with an unknown blood type receiving transfusion of Rh (D) positive RBC's in the emergency room setting. Alloimmunization to Rh (D) is not a clinical issue for the majority of patients who typically experience only a single lifetime transfusion episode. For Rh(D) negative patients requiring chronic transfusion support, the use of Rh (D) negative RBC's should be considered because it also reduces the risk of alloimmunization to the C and E antigens, making it easier to find compatible units for future transfusions.

Additional information may be found in the AABB Association Bulleting #19-02 issue date June 26, 2019

Ordering Patient Antigen Typing

By Rhonda Burgard, Client Services Supervisor

To order antigen typing please use the "REF" test code and comment in the antigen to be tested.

Cold Weather Shipping

By Rhonda Burgard, Client Services Supervisor

Please remember, with the approach of colder weather, to package specimens to avoid freezing. Place specimens in the center of the shipping container and avoid direct contact with refrigerator packs. Fill empty spaces in the shipping container with paper towels, bubble wrap or other packing material. Primary serum tubes arriving frozen will have the following comment appended based manufacture recommendations and an internal study performed at NPL: "Primary collection tube received frozen. Internal studies indicate that sodium and chloride may have a negative bias of approximately 7%."

If sending EDTA specimens for CBC's, please wrap them in bubble bags which provide extra insulation and may help reduce platelet clumping. Avoid sending slides for hematology on the same side of the shipping container as specimens preserved in formalin.

To reduce shipping costs please fill both sides of the double shipping containers. It is acceptable to send frozen samples separated by the foam wedge in the same container as refrigerated samples. Or, to send refrigerated samples separated by the foam wedge in the same container as ambient samples. Do not remove the plastic liners from the Styrofoam containers.

If winter weather makes it impossible for the courier companies to travel, NPL will send a HVR memo and/or call the impacted clients. If your facility will be closed due to adverse weather conditions, please notify NPL client services at 701-530-5700.

Satisfaction Survey

By Rhonda Burgard, Client Services Supervisor

Customer satisfaction surveys were mailed in early November. If you have not already returned your survey, please do so by December 13th, 2019. Thank you.

ARUP Metals-Free Tube Requirements

By Rhonda Burgard, Client Services Supervisor

ARUP will no longer accept whole blood, serum or plasma specimens sent for trace element testing in non-certified metals-free tubes. Please order certified metals-free transport tubes (NPL supply item #800195) for all of the following tests:

- Aluminum, Serum
- Chromium, Serum
- Cobalt, Serum/Plasma
- Copper, Serum/Plasma
- Iodine, Serum
- Manganese, Serum
- Nickel, Serum
- Selenium, Serum/Plasma
- Zinc, Serum/Plasma

This change reduces the risk of false-positive results and potential metals contamination ensuring greater accuracy for patient results.

OSHA Bloodborne Pathogen Regulations

By Rhonda Burgard, Client Services Supervisor

The federal Occupational Safety and Health Administration (OSHA) requires that all laboratories have procedures for minimizing occupational exposure to bloodborne pathogens. State and federal regulators have determined that

a combination of engineering and work practice controls, personal protective clothing and equipment, training, surveillance, signage and labeling can minimize or eliminate the risk of occupational exposure. The Needlestick Safety and Prevention Act of 2000 requires that employers select safer needle devices as soon as they become available. A log of injuries from contaminated sharps is also required.

To be compliant with the OSHA regulations laboratories should have the following in place:

- An **exposure control plan** that identifies in writing the job classifications, tasks and procedures where there is risk of occupational exposure. All processes involving potentially infectious materials should be performed to minimize contact employee with these substances.
- Exercise **universal precautions**- Treat all specimens as if infectious.
- Institute **engineering and work practice controls**- This includes handwashing, decontamination of work surfaces, appropriate use of personal protective equipment, and sharps and infectious material disposal. Remember to document evaluation of your exposure control plan and use of safer needle devices annually.
- Make **the hepatitis vaccine** available to all employees
- Conduct **post exposure evaluations** and follow-up
- Use required **warning labels** on containers of blood and other potentially infectious material.
- Provide and document **employee training** annually
- Have a process for reporting an exposure to infectious material. Retain training **records** for 3 years and medical records of employees with occupational exposures for 30 years.

Reference: COLA Fast Facts 24: OSHA Self-Assessment

Test Utilization- Inherited Thrombotic Disorders

By Rhonda Burgard, Client Services Supervisor

Screening for inherited thrombophilia should only be considered in certain cases (idiopathic thrombosis in patients < 50 years of age, recurrent thrombosis, unusual sites of thrombosis, first-degree relatives with thromboses or thrombotic event during pregnancy or while taking oral contraceptives.) Functional assays (protein C, protein S and APC resistance) are the preferred first-line tests when screening for inherited thrombophilia. Initial screens such as for MTHFR 2 variants, factor V Leiden and homocysteine are inappropriate.

Reduction of duplicate testing is an important utilization practice. Genetic testing need only be performed once per lifetime. In 2019 YTD, 21 patients had repeat genetic testing (Tests ordered: Factor V Leiden, Hemochromatosis 3 Mutations, HLA-B*57:01 for Abacavir Sensitivity, Huntington Disease Mutation, Methylenetetrahydrofolate Reductase, Prothrombin G20210A Mutation).

Additional information may be found in ARUP consult at www.aruplab.com

NEW MEDICARE NUMBERS

By: Patti Schmidt, CPC, Billing Supervisor

Currently, all Medicare Beneficiaries should have received new cards with new identification numbers on them. The new numbers look completely different than their old numbers. The new numbers consist of eleven digits with a combination of letters and numbers. If your facility is not interfaced with NPL through an EMR, please make sure your HVR Connect system is updated with the new identification numbers when laboratory work is ordered on a Medicare patient. Effective January 1, 2020, CMS will start denying claims if the old identification numbers are used with dates of service after January 1, 2020.

Sample Type and Stability Changes

By Rhonda Burgard, Client Services Supervisor

Free T3 sample stability has been changed based on an internal study. The new stability requirements are:

- 24 hours at room temperature
- 48 hours refrigerated at 2-8C
- >48 hours-freeze. Stable for 1 month
- Do not thaw samples more than 3 times.

Osmolality: Plasma has been removed as a valid sample type.

Critical Value Changes

By Rhonda Burgard, Client Services Supervisor

The critical value for lactic acid is now ≥4.0 mmol/L. An updated critical value listing is enclosed in this mailing.

CPT Coding Changes for 2020

By Rhonda Burgard, Client Services Supervisor

New CPT codes for Molecular Pathology and MMAA codes are enclosed in this mailing.