

The Pathology Council of Alverno Laboratories has determined that follow-up testing and/or confirmation of the following tests is medically necessary in order to provide appropriate patient care. **Changes are highlighted in YELLOW.** **Deleted are highlighted in RED.**

August 2025

| Original Test  | Orderable with or without reflex | Result   | Follow-up/Confirmation Test  |
|--|----------------------------------|--|--|
| Acid Fast Smears                                       | No                               | All first-time positives   | Reflex to PCR for MTb and Rifampin resistance  |
| Acid Fast Cultures                                     | Yes                              | All first time MTb isolates  | All first-time MTb isolates are sent to corresponding state lab for susceptibility and Rifampin resistance testing.  |
| Allergen Profile: Childhood Food & Environmental Panel | Yes                              | Egg white (f1).0.1 Ku/L<br>Milk (f2)>0.1 Ku/L<br>Peanut (f13) > 0.1 Ku/L | Reflex to egg, milk, and/or peanut component allergen profile  |
| Allergen Profile: Food Allergy Panel                   | Yes                              | Egg white (f1).0.1 Ku/L<br>Milk (f2)>0.1 Ku/L<br>Peanut (f13) > 0.1 Ku/L | Reflex to egg, milk, and/or peanut component allergen profile  |
| ANA by multiplex EIA, Screen                           | Yes                              | Positive   | Quantitative detection of DsDNA, semi-quantitative detection of: Chromatin, Ribosomal P, SS-A, SS-B, Sm, SmRNP, RNP, Scl-70, and Centromere B.   |
| ANA by IFA with reflex to multiplex EIA                | Yes                              | Titer $\geq$ 1:80  | Quantitative detection of DsDNA, semi-quantitative detection of: Chromatin, Ribosomal P, SS-A, SS-B, Sm, SmRNP, RNP, Scl-70, and Centromere B.   |
| <b>Hospital Antibody Screen</b>                        | <b>Yes</b>                       | <b>Positive</b>  | <b>Reflex to Antibody ID</b>   |
| Antibody Screen  | No                               | Positive   | Antibody ID<br><br><i>Message is now placed on patient report that AB Screen is positive and if a prenatal patient, seek additional testing from delivering hospital.</i><br><br><i>If not pre-natal and the physician still wants to id the AB, they should recollect, with the appropriate samples required for Versiti, and we will send them to Versiti.</i> |
| Antibody Screen  | No                               | Positive   | Antigen-type units for crossmatch  |
| Blood Culture  | No                               | Rapid identification positive for Staph aureus                           | PCR for confirmation of Staph aureus identification and mecA (MRSA) resistance marker detection.   |
| Blood Culture  | No                               | Detection of E. coli, Klebsiella spp. and Proteus spp.                   | BIOFIRE Torch for Resistance markers (CTX-M, IMP, KPC, mcr-1, NDM, OXA48, VIM).<br><br><b>Note: Positive blood cultures will be set up for BIOFIRE under these 3 circumstances: 1. Time to detection is</b>  |

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|  |     |   | <15 hours 2. Initially identified by Sepsityper as E. coli to report resistance markers 3. All yeast identified by gram stain. |
| Body Fluid Slide   | No  | Abnormal cells  | Pathologist review   |
| Breast Cancer (new diagnosis)  | No  | Carcinoma   | HER-2 (reflex to FISH if applicable)<br>Estrogen/Progesterone receptors.   |
| CBC  | No  | Specified abnormal flags  | Pathologist review and/or scan and/or manual diff  |
| Chemistry Panel (Basic Metabolic or Comprehensive Metabolic)                     | No  | Adults 18 and over  | Estimated Glomerular Filtration Rate (eGFR) by Creatinine will also be reported  |
| Clostridium difficile  | No  | GDH + / Toxin negative  | PCR confirmation (This only applies to Franciscan sites).  |
| Clostridium difficile, BioFire GI Panel (Only for Inpatient when ordering BFGI2) | Yes | Positive  | If the C. diff target on the BioFire PCR panel is positive an EIA antigen test will be reflexed.                               |
| Colorectal carcinoma, MMR  | No  | MLH1 deficient  | BRAF V600E (Alverno) with reflex to MLH1 promoter methylation in wild type cases (Quest)                                       |
| CSF specimen   | No  | CSF specimen is cloudy (not bloody)   | STAT Gram Stain  |
| Coronary Risk Panel  | No  | Triglycerides > 400 mg/dl   | Direct LDL   |
| Culture  | No  | Suspected pathogens   | Organism ID & Susceptibility Testing if indicated  |
| Endometrial endometroid adenocarcinoma, MMR                                      | No  | MLH1 deficient  | MLH1 promoter methylation (Quest)  |
| Fetal Bleed Screening Test   | No  | Positive  | Kleihauer-Betke fetal cell stain or flow cytometry test for the detection of fetal hemoglobin.                                 |
| Group B Streptococcus by PCR   | No  | Unresolved/Indeterminate  | Culture  |
| Group B Streptococcus by PCR (Sensitivity Testing)                               | No  | Positive on Penicillin allergic patients  | Culture and Antibiotic Susceptibility Testing  |
| Hemoglobin A1C   | No  | All   | Estimated Average Glucose (EAG calculation) also reported  |
| Hemoglobin electrophoresis   | No  | If peak is in "S" zone<br>If peak is in "C" zone<br>Other abnormal findings   | Sickle screen<br>Acid Plate<br>Sent to Reference lab if indicated  |
| Heparin Induced Platelet Antibodies  | No  | If positive   | Serotonin Release Assay  |
| Hepatitis A Cascade  | Yes | If Hepatitis A total is Positive or Equivocal   | Hepatitis A IgM  |
| Hepatitis B Surface Antigen  | No  | If Hepatitis B Surface Antigen Index value is repeatedly between 1.00 and 50.00 or result is >=50.00 in a stand-alone | Hepatitis B Surface Antigen Confirmation by neutralization.  |

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|   |     | order without other Hep B serology assays to confirm.  |   |
| Hepatitis C Screen  | No  | Positive & equivocal   | PCR Quantitative Confirmation   |
| HIV – Rapid Test  | No  | Positive   | HIV 5 <sup>th</sup> Generation Screen   |
| HIV 5 <sup>th</sup> Generation Screen                     | No  | Reactive   | Geenius confirmation (HIV Ab Differentiation Immunoassay)   |
| Geenius confirmation (HIV Ab Differentiation Immunoassay) | No  | Nonreactive, Indeterminate, HIV Positive Untypable (Undifferentiated)  | Nonreactive, Indeterminate or Undifferentiated sent to reference lab for HIV-1 RNA NAT  |
| Lactic Acid ( <b>Franciscan Sites Only</b> )              | No  | >2   | Additional lactic acid reflexed every three hours for up to nine hours  |
| LDL   | No  | LDL calculation is negative  | Direct LDL  |
| Lipid Panel w/ Reflex to LDL Direct                       | No  | Triglycerides >400 or when calculated LDL cannot be performed due to Cholesterol, HDL, or Triglycerides outside of reportable range. | Direct LDL  |
| Lupus Anticoagulant Reflexive Panel                       | No  | If indicated   | Fibrinogen, dRVVT and Silica Clotting Time(SCT) confirmation, and dRVVT and SCT mixing studies.   |
| Lyme Disease  | No  | Positive or equivocal EIA/IFA test   | Western Blot confirmation   |
| Malaria Smear   | No  | Positive   | Sent to Reference Lab for confirmation by PCR   |
| Malaria, Rapid Screen and Smear                           | No  | Pos antigen / Neg smear or Neg. antigen/Pos smear  | Sent to Reference Lab for Confirmation by PCR   |
| Newborn Metabolic Error Screen                            | No  | -  | <ul style="list-style-type: none"> <li>- Collection required before baby leaves the hospital</li> <li>- if 1<sup>st</sup> screen is collected &lt;24 hrs after 1<sup>st</sup> protein feeding, no-charge repeat is required</li> <li>- State does follow-up with parents and MD if any screen result is positive</li> </ul> |
| Organism ID   | No  | All Identified Pathogens   | Antibiotic susceptibility if indicated.   |
| Pap smear / thin prep                                     | No  | Suspected Abnormal Cells   | Pathologist interpretation  |
| Pap HPV Reflex if ASCUS                                   | Yes | Pap with ASCUS result  | HPV <b>by PCR</b>   |
| Pap HPV on Any Abnormal                                   | Yes | Pap with any abnormal result   | HPV <b>by PCR</b>   |
| Prenatal Testing (Blood Bank)                             | No  | Positive Antibody Screen   | Antibody identification performed   |
|   |     | Clinically significant antibodies detected in Prenatal Antibody Screen   | Antibody titer performed  |
| Serum Creatinine  | No  | All (greater than 20 years of age)   | Glomerular Filtration Rate (GFR - calculation) also reported  |
| Strep Screen by EIA/FIA (Group A Strep – throat screen)   | No  | Strep screen negative for Group A Streptococcus  | Culture performed   |
| Syphilis Screen (RPR)                                     | No  | Reactive / Positive  | RPR quantitative & Syphilis Screen (Treponema specific)   |

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| Susceptibility Testing                  | No  | <p>Pan Resistant Pseudomonas species:</p> <p>Confirmed CRE KPC</p> <p>Confirmed CRE not NDM:</p> <p>Elizabethkingia meningosepticum/<br/>Acinetobacter species only susceptible to Minocycline</p> <p>Carbapenem Resistant Acinetobacter sp.</p> | <p>Ceftazidime-avibactam<br/>Ceftolozane-tazobactam</p> <p>Ceftazidime-avibactam<br/>Meropenem-Vaborbactam</p> <p>Ceftazidime-avibactam</p> <p>Colistin</p> <p>Colistin (for all sources except blood)<br/>Eravacycline, Tigecycline, Colistin, and Cefiderocol and Xacduro (Could not get validated)</p> |
| Syphilis Screen (Treponema specific)    | No  | Reactive / Positive  | RPR / RPR quantitative (if indicated)   |
| RPR / RPR quantitative (if indicated)   | No  | <p>Nonreactive (if Syphilis Screen (EIA) is reactive or equivocal)</p> <p>Reactive (if Syphilis Screen (EIA) is equivocal)</p>   | TP-PA (Treponema pallidum Particle Agglutination)   |
| Therapeutic phlebotomy                  | No  | Requested  | H/H must be performed within 24 hr prior to phlebotomy  |
| Thyroglobulin by LC-MS/MS               | Yes | Thyroglobulin Antibody $\geq 1$ IU/mL  | If the thyroglobulin antibody is positive ( $\geq 1$ IU/mL) samples will be sent to Quest to perform the Thyroglobulin antigen by LC-MS/MS. If the antibody is $< 1$ , thyroglobulin antigen testing will be performed in-house by immunoassay.   |
| Transfusion (packed cells or platelets) | No  | Requested  | H/H or platelet count must be performed prior to transfusion  |
| Type and Screen                         | No  | All first-time type determinations   | <p>No charge ABO and RH (Type)</p> <p><i>**Required for sites that perform electronic crossmatch if the patient does not have a historical blood type**</i></p>   |
| Urinalysis                              | Yes | Dip positive for biochemical results: glucose value of <b>3+ or greater (<math>\geq 300</math> mg/dL)</b> , or positive blood, or positive protein, or positive nitrite, or positive leukocyte esterase  | <b>Urine Microscopic</b> (may also order Urinalysis with Microscopic Exam — which will include microscopic regardless of results)   |
| Urinalysis with Reflex Culture          | Yes | $> 10$ WBC per hpf <b>and</b> leukocyte esterase <b>or</b> nitrite positive  | Microscopic exam will be performed only if dipstick is positive for blood, leukocyte esterase, nitrate, protein, or glucose $> 500$ mg/dL.  |

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|   |     |           | Culture performed if >10 WBC per hpf<br><b>AND</b> leukocyte esterase <b>OR</b> nitrate is positive. |
| Urine Electrolytes, Random<br>Urine Protein, Random | Yes | Requested | Urine Creatinine, Random   |
| Pain Management-Saliva Drug Test                    | No  | Positive  | Confirmations by GC or LC/MS   |
| VDRL (CSF)  | No  | Positive  | Titer  |

#### NOTES:

1. All routine stool cultures include examinations for Salmonella, Shigella, Campylobacter, Aeromonas, Pleisiomonas, Edwardsiella and predominant growth of Klebsiella Oxytoca. Examinations for other enteric pathogens (Vibrio, E. coli 0157, Yersinia) will be performed only upon physician request. Special physician requests for Vibrio, E. coli 0157 or Yersinia will also trigger the performance of a routine stool culture.
2. 24-hour urine creatinine test will not be performed on all 24-hour urine specimens unless specifically requested by the physician.
3. All routine body fluid, wound, sputum and "other" culture orders include a gram smear to be performed on the original specimen.
4. All thyroglobulin antigen orders will be accompanied with a thyroglobulin antibody assay to determine if antibodies are present. If antibodies are present the thyroglobulin antigen assay will be sent to Quest to be performed by LC/MS-MS methodology. If antibodies are not present, the thyroglobulin antigen assay will be performed in-house via immunoassay methodology (go-live 12/7/21).
5. Orders for "Fungal Antibody Screen" include the following:
  - ◆ Histoplasma antibody
  - ◆ Blastomyces antibody
  - ◆ Coccidioides antibody
  - ◆ Aspergillus antibody

*Note: Any of the four fungal antibodies listed above may be ordered individually by the physician.*
6. Positive drug screen results on the following test codes will result in a confirmation reflex on the LC/MS/MS:
  - D5WC
  - D8WC
  - D9WC
  - D9AWC
  - DRC11
  - DROC0

## Addendum A

### **Clinical Laboratory Interpretation Services**

*The Pathologist may automatically interpret the clinical laboratory services listed below. This professional interpretation will be written and included on the patient's test report.*

- ♦ Hemoglobin Electrophoresis
- ♦ Protein, total, serum, urine; electrophoretic fractionation and quantitation
- ♦ Abnormal blood smear; interpretation and report
- ♦ Fibrinolysin; screening
- ♦ Platelet aggregation (in vitro), any agent
- ♦ Fluorescent antibody, screen
- ♦ Fluorescent antibody, titer
- ♦ Immuno-electrophoresis / Immunotyping; serum, each specimen – capillary immunotyping
- ♦ Immuno-electrophoresis / Immunotyping; other fluids (e.g. urine) with concentration, each specimen
- ♦ Dark field examination, any source (e.g. penile, vaginal, oral, skin); includes specimen collection.
- ♦ Mixing Studies – PT and/or APTT
- ♦ Smear, primary source, with interpretation; special stain for inclusion bodies or intracellular parasites (e.g. malaria, kala azar, herpes)
- ♦ Crystal Identification by light microscopy with or without polarizing lens analysis, any body fluid (except urine)
- ♦ Deviations from standard Blood Bank Procedures
- ♦ Transfusion Reaction Workups
- ♦ Immunophenotyping by flow cytometry
- ♦ FISH Analysis
- ♦ Endomysial antibodies for celiac sprue
- ♦ Lupus Anticoagulant Reflexive Panel
- ♦ Antiphospholipid Syndrome Panel
- ♦ Microsatellite Instability for Lynch Syndrome
- ♦ Microsatellite Instability for Checkpoint Therapy
- ♦ BRAF V600 Mutation by PCR
- ♦ KRAS Mutation by PCR
- ♦ EGFR Mutation by PCR
- ♦ Myeloid Neoplasia Panel by NGS
- ♦ Solid Tumor Comprehensive Panel by NGS