All specimens must be labeled with patient's name (first and last), date and actual time of collection, and type of specimen.		
Test/Source	**Specimen Requirements/Information**	**Transport Method**
Anaerobic Culture (CXANA) **Acceptable Sources:** Wounds except Catheter Tips; Body Fluids; Tissues; Respiratory specimens such as transtracheal aspirates or those involving invasive procedures relating to lower respiratory sites, collected via double lumen catheter. **Unacceptable sources:** Respiratory sources such as sputum, upper respiratory specimens, nasopharynx, nares or throat; Genital sources except Bartholin cysts or aseptically collected specimens; Urine sources except suprapubic aspirates; Stool.	**Anaerobic culture should only be ordered in conjunction with the appropriate aerobic culture.** Swab specimens, small volumes of fluid and small pieces of tissue must be in anaerobic transport like BD ESwab Collection and Transport System (preferred), or BBL Port-A-Cul vials. **Swab specimens or small volumes of fluid or pieces of tissue not in anaerobic transport are unacceptable**. Large volumes of fluid or pieces of tissue in a sterile container do not require anaerobic transport medium, but must be transported to the laboratory immediately in a sterile container. **Syringes must have needles removed (syringes with needle still attached will not be accepted).** Anaerobic transport medium may be used for both aerobic and anaerobic cultures.	Fresh specimens must be transported to the laboratory immediately. Eswabs are acceptable for up to 48 hours after collection. Port-A-Cul vials are acceptable for up to 72 hours after collection. Transport at ambient temperature.
Autoclave Check Culture (CXAUT) **Source:** Autoclave spore strip	Submit spore check test strips (available from Holland Hospital Laboratory Customer Services Department) that have gone through an autoclave cycle.	Transport promptly at ambient temperature only.

BLOOD CULTURES: **Blood Culture (CXBLD)** **Fungal Blood Culture (CXFNB)**	Collect blood aseptically. 1. Remove cap from culture vial and wipe top with single alcohol swab. Allow to air dry. 2. Cleanse indicated skin site with blood culture PrepKit. a. Use the alcohol sponge to scrub the site vigorously for a minimum of one minute. Allow the site to air dry. b. Using the iodine ampule, beginning in the center, move outward in concentric circles without going over an area more than once. Allow site to air dry. 3. Perform venipuncture taking care not to touch the prepped area. 10 years or older: 16-20 mLs split between **aerobic** and **anaerobic** bottles. 4-9 years: 1 mL/year of life in **aerobic** bottle. Minimum acceptable volume is 3 mLs/bottle. 1-3 years: 1 mL/year of life in **Peds Plus** bottle. 0-1 year: 1 mL in **Peds Plus** bottle. Minimum acceptable volume is 0.5 mL.	Inoculated BACTEC PLUS + Aerobic/F Culture Vial Medium, BACTEC PLUS Lytic/10 Anaerobic/F Culture Vial Medium, or BACTEC PEDS PLUS/F Culture Vial Medium vials should be transported to the lab as soon as possible. However, if delays are unavoidable, vials can be held at room temperature a maximum of 48 hours.
Body Fluid Culture (CXFLD) **Sources**: Amniotic, Ascites, Bile, Blood Bag, Bone Marrow, Gastric, Pericardial, Peritoneal, Pleural and Synovial. If source is "Other", must specify fluid type in "Site" field.	**Avoid swab collection if fluid can be aspirated.** For specimens collected by percutaneous aspiration, disinfect the site with alcohol and iodine, then aseptically aspirate fluid with needle and syringe. **Needle must be removed from syringe after collection (syringe with needle still attached will not be accepted)**, or the fluid can be placed in a sterile transport container. For specimen collected from drainage tube, a fresh specimen should be collected. Anaerobic transport can be used for both aerobic and anaerobic cultures.	Transport to the laboratory without delay, at ambient temperature; do not refrigerate.

Cerebrospinal Fluid Culture (CXCSF)	Lumbar puncture kit from Central Services contains numbered, sterile tubes. Collect via lumber puncture or fluid shunt. The culture and gram stain are usually performed on tube number 3 (or tube 2 if tube 3 is not available).	Transport to the laboratory without delay.
Clostridium Difficile (CDIFF) **Source**: Stool	**Unformed** stool in sterile container; **formed stools will not be tested**. Refrigerate after collection. **Testing will be limited to 1 sample per 24 hour period and 2 samples per 7 day period.**	Samples should be stored and transported at 2–8°C prior to testing. Samples should be tested as soon as possible, but may be held up to 2 days at 2–8°C.

GENITAL CULTURES/ASSAYS: **Gonorrhoeae Culture (CXGC)** **Sources:** Conjunctiva, GENIT (specify Bartholin's Gland, Cervix, Endocervix, or Vagina in "Site" field), Rectum, Throat and Urethra. **Genital Culture (CXGEN**) **Sources**: Cervix, Vaginal, or GENI (for GENI, specify Bartholin Cyst, Cul de Sac, Endocervix, Labia, Penis, Placenta, Scrotum, Seminal, Uterus, Urethra, or Vulva in "Site" field). **Group B Streptococcus Assay (GRBS):** **Sources**: Vaginal/Rectal (preferred), and Vaginal.	**CXGC**: Direct media inoculation of Modified Thayer Martin agar with CO_2 generating tablet inside sealed plastic bag provided (JEMBEC™) is optimal because viability decreases in swab specimens. ESwab is an alternate method of collection. **CXGEN**: Unless otherwise specified, use an ESwab (preferred) or other swab-based nonnutritative transport medium without charcoal to collect the specimen. Cervix and Endocervix: clear away vaginal mucus and insert speculum. Bartholin Cyst, Labia, Penis, Scrotum: decontaminate the skin. Cul-de-Sac: clean the vaginal wall with surgical disinfectant. Seminal: sterile container. Uterus: insert swab thru cervix. Urethra: express exudate onto swab from distal urethra; if there is no exudate, wipe area clean, insert a swab into the endourethra. Vulva: clean the surface of the lesion with sterile saline. Placenta: aseptic collection. Vaginal: sterile swab. **GRBS**: Specimens should be collected at 35 to 37 weeks gestation. Use an ESwab (preferred) or other swab-based nonnutritative transport medium without charcoal to swab both the lower vagina, and the rectum (through the anal sphincter). Because lower vaginal as opposed to cervical cultures are recommended, cultures should not be collected by speculum examination.	**CXGC**: While JEMBEC™ is preferable, ESwab specimens for N. gonorrhoeae are acceptable for up to 24 hours, and other swab-based transport specimens are acceptable for up to 12 hours after collection. Transport at ambient temperature. **CXGEN**: ESwab specimens are acceptable for up to 48 hours after collection, although N. gonorrhoeae may only be viable for up to 24 hours. Other swab-based transport systems or sterile containers are acceptable for up to 48 hours after collection, although N. gonorrhoeae may only be viable for up to 12 hours. Transport at ambient temperature. **GRBS**:ESwabs and other swab-based media are acceptable for up to 48 hours after collection. Store/transport all specimens at ambient temperature or 2–8°C.

Giardia/Cryptosporidium (GIACR) **Source:** Stool	Stool specimens preserved in 10% formalin, sodium acetate-acetic acid-formalin (SAF) or ECOFIX®. 1. Collect prior to administration of antibiotics or anti-diarrheal agents. Avoid use of mineral oil, bismuth and barium prior to collection. Collect specimen in a clean, wide-mouthed container, avoiding contamination with urine. Transfer portion of collected stool into a preservative system immediately. 2. An appropriate (i.e., bloody, mucoid, watery) area of stool should be selected and sampled with collection spoon provided in cap of container. **Do not empty vial before adding stool.** Add sufficient stool to the liquid in each container to bring liquid level up to "Fill to Here" line. **Do not overfill.** For a formed stool, material should be removed from sides, ends, and middle of bolus. Agitate specimen with spoon, along sides of the container; tighten cap and shake firmly to ensure that specimen is adequately mixed. When mixing is completed, speciman should appear homogenous.	Store and transport specimen vial at ambient temperature.
Gram Stain	A gram stain is included when you order the following tests; it is <u>not</u> necessary to order a gram stain individually: CXCSF, CXFLD, CXGEN, CXRES, CXRQU, CXTIS, CXWND.	
Helicobacter pylori **Antigen, Stool (HPAS)**	Unpreserved stool in an airtight transport container. **DO NOT USE** stool in transport media, on swabs, or mixed with preservatives.	Upon collection, fresh stool should be stored and transported at 2-8°C for up to 72 hours, until tested. If testing cannot per performed withing 72 hours, freeze upon receipt and store frozen for up to 14 days at -20°C.

Influenza A/B Antigens, Nasal (INFLU) **Sources:** Nares, or Nasopharynx	**Throat specimens will NOT be tested by this method. Submit only one of the following specimens:** Nasopharyngeal aspirate: Insert a depressed bulb syringe deeply into either nare and suction while withdrawing. Expel collected specimen into sterile container. Nasopharyngeal swab: Use ESwab Mini-tip Collection and Transport System, or other nasopharyngeal or rayon mini-tip swab in liquid transport medium such as Amies or saline. **Wooden-shaft, calcium alginate, Culturette® E2, or cotton-tipped swabs are unacceptable**. Carefully insert swab beneath inferior turbinate and vigorously rub and roll against mucosal surface. Remove swab from nose, and immediately replace swab in 1 mL or less of transport medium such as Amies, or saline. **Swabs which are not received in liquid medium are unacceptable.** Nasopharyngeal wash: Secure patient in supine position and occlude one nostril. Use bulb syringe to instill 1-3 mL of saline into other nostril; avoid excessive wash volume. Use new bulb syringe to collect recoverable nasal specimen; empty fluid into sterile specimen container.	Fresh specimens are acceptable for up to 72 hours. Eswabs are acceptable for up to 48 hours. Transport at ambient temperature. Store at 2–8°C.
Influenza/RSV Panel (IRPCR) **Respiratory Panel (RPAN)** **Source:** Nasopharynx	Nasopharyngeal swab: Carefully insert swab beneath inferior turbinate and vigorously rub and roll against mucosal surface. Remove swab from nose, and immediately replace swab in 1 mL or less of non-nutritive transport medium such as Universal Viral Transport Media. **Throat swabs, nasal swabs or swabs in medium containing charcoal are unacceptable.**	Specimens are stable for 8 hours at room temp, 72 hours refrigerated and 30 days frozen.

KOH Wet Mount (KOH) **Sources:** Hair, Nail or Skin	**This test is for skin scrapings, hair and nail clippings only. For routine wet prep, order WETPR "Wet Prep for *Trichomonas,* Yeast or Clue Cells."** Place skin scrapings, hair or nail clippings from affected site in a sterile container.	Transport at ambient temperature.
***Legionella* Urinary Antigen (LEGAU)**	Collect urine in standard container. Boric acid may be used as a preservative.	Specimens must be assayed within 24 hours of collection if stored at room temperature (15-30°C). Specimen may be stored at 2-8°C for up to 14 days. For longer periods before testing, specimen must be frozen.
Mycoplasma Pneumoniae/Bordetella Pertussis Panel (MAPP) **Source:** Nasopharynx	Nasopharyngeal swab: Carefully insert swab beneath inferior turbinate and vigorously rub and roll against mucosal surface. Remove swab from nose, and immediately replace swab in 1 mL or less of non-nutritive transport medium such as Universal Viral Transport Media. **Throat swabs, nasal swabs or swabs in medium containing charcoal are unacceptable.**	Specimens are stable for 8 hours at room temp, 72 hours refrigerated and 30 days frozen.

MRSA Carrier Screen Culture (CXMRS) **Source:** MRSA (specify Axilla, Nares, Rectum, Skin or Throat in the "Site" field).	**This test is strictly a screen for suspected Methicillin-Resistant Staphylococcus aureus (MRSA) carriers. No other organisms will be identified, and drug susceptibilities will not be performed if MRSA is detected. If identification of other potential pathogens is required, or MRSA drug susceptibilities are needed, order the appropriate source-specific culture such as CXWND Wound Culture, or CXRES Respiratory Culture, Bacterial.** Use an ESwab (preferred) or other swab-based nonnutrative transport medium, such as Amies, to collect the specimen. Nasal: Both nares can be sampled using a single swab rotated on the surface Rectum: Insert the swab into the area of the anal sphincter Throat: Swab of the posterior pharynx, tonsillar pillars Axilla/Skin: Premoisten with sterile saline or transport media Place swab in transport medium.	ESwabs and other swab-based media are acceptable for up to 48 hours after collection . Transport at ambient temperature.

MRSA PCR (MRSA) **Source:** Nares or Nasopharynx	This MRSA assay detects Methicillin-resistant Staphylococcus aureus (MRSA) DNA from **nasal swabs only**, in patients at risk for nasal colonization. **This test is strictly a screen for suspected Methicillin-Resistant Staphylococcus aureus (MRSA) carriers. No other organisms will be identified, and drug susceptibilities will not be performed if MRSA is detected. If identification of other potential pathogens is required, or MRSA drug susceptibilities are needed, order CXRES Respiratory Culture, Bacterial.** Use an ESwab (white cap) to collect a specimen from the nares, or ESwab Mini-tip (blue cap) from the nasopharynx.	Eswabs are stable at room temperature or refrigerated for up to 10 days.
RESPIRATORY CULTURES: **Respiratory Culture, Bacterial (CXRES)** **Sources:** Lung (specify location in "Site" field), Nares, Nasopharynx, RESPU (specify Adenoids, Ear, Epiglottis, Ethmoid, Gingiva, Larynx, Mastoid, Maxillary Sinus, Mouth, Parotid, Sinus, or Tongue in "Site" field), Sputum (specify Expectorated or Induction in "Site" field), or Tonsillar Abscess. **Respiratory Culture, Quantative (CXRQU) Source:** Bronchoalveolar Lavage	**CXRES:** Anaerobic transport can be used for both aerobic and anaerobic cultures. ESwab (preferred), or other swab-based nonnutritative transport medium such as Amies, syringe (as appropriate) without needle **(syringe with needle still attached will not be accepted)**, or other sterile container are acceptable unless otherwise specified. Lung specimens should be submitted in a sterile container; **swabs are unsatisfactory**. Submit sputum in sterile container; **a swab collection, or 24-hour sputum collection is unacceptable**. External Ear: Insert sterile swab into ear canal until resistance is met; rotate swab and allow fluid to collect. **CXRQU:** See Holland Hospital internal procedure *Mini or Blind Bronchial Alveolar Lavage (BAL) 6.143* for collection instructions.	**CXRES:** Fresh specimens collected in sterile containers, including sputum, should be stored/transported at 2–8°C, and forwarded to the lab without delay. ESwabs and other swab-based media are acceptable for up to 48 hours after collection. Store/transport swabs at ambient temperature, or 2–8°C.

Respiratory Syncytial Virus Antigen, Nasopharyngeal (RSV) **Sources:** Nares, or Nasopharynx	**Submit only one of the following specimens:** Nasopharyngeal aspirate: Insert a depressed bulb syringe deeply into either nare and suction while withdrawing. Expel collected specimen into sterile container. Nasopharyngeal swab: Use ESwab Mini-tip Collection and Transport System, or other nasopharyngeal or rayon mini-tip swab in liquid transport medium such as Amies or saline. **Wooden-shaft, calcium alginate, Culturette® E2, or cotton-tipped swabs are unacceptable.** Carefully insert swab beneath inferior turbinate and vigorously rub and roll against mucosal surface. Remove swab from nose, and immediately replace swab in 1 mL or less of transport medium such as Amies, or saline. **Swabs which are not received in liquid medium are unacceptable.** Nasopharyngeal wash: Secure patient in supine position and occlude one nostril. Use bulb syringe to instill 1-3 mL of saline into other nostril; avoid excessive wash volume. Use new bulb syringe to collect recoverable nasal specimen; empty fluid into sterile specimen container.	Transport fresh specimens to the laboratory as rapidly as possible. These specimens may be stored at 2–8°C for up to 72 hours after collection. Eswabs are acceptable for up to 48 hours after collection.

Stool Cultures (CXSTO)	**No more than 2 specimens per patient will be accepted without prior consultation. Specimens from inpatients after the third hospital day will not be accepted without prior consultation.** Preferred specimen is stool in Cary-Blair transport medium at room temperature or refrigerated. The patient should be cautioned against use of antacids, barium, bismuth, antidiarrheal medication or oily laxatives prior to collection. Collect during the acute stage of diarrheal disease. Patient should pass the stool into a clean dry container, avoiding contamination with urine. The most bloody, mucoid or watery area of the stool should be sampled. **Do not empty vial before adding stool.** Add sufficient stool to the liquid in each container to bring liquid level up to "Fill to Here" line. **Do not overfill;** overfilling results in improper specimen preservation. Agitate to mix thoroughly.	Specimens in Carey-Blair transport medium are acceptable for up to 24 hours after collection if stored at room temperature, or for up to 48 hours if refrigerated.
Stool for WBCs (STWBC)	Collect fecal specimens into a clean, airtight container with no preservatives. Include any stool with visible mucous or pus. **Specimens that are in transport medium or that have been preserved in 10% formalin, Merthiolate Formalin, Sodium Acetate Formalin, Polyvinyl Alcohol, or other fixatives are unacceptable.**	Store specimen between 2º-8ºC or at room temperature for up to 2 weeks from time of collection, then store frozen at -20ºC or lower.
Throat Culture (CXTHR)	Use an ESwab (preferred) or other swab-based nonnutrative transport medium, such as Amies, to collect the specimen. Swipe the posterior pharynx, tonsillar pillars and any inflamed or exudative areas; avoid the tongue, buccal mucosa and uvula. Place swab in transport medium.	ESwabs and other swab-based media are acceptable for up to 48 hours after collection . Store/transport swabs at ambient temperature, or 2–8°C.

Tissue Culture (CXTIS) **Sources:** Appendix, Bone, Brain, Bursa, Cord Blood, Gall Bladder, Kidney, Lymph Node, Peritoneum, Synovium, Thyroid or Ureter. Other is the "source of last resort"; if used, you must include a site.	**Avoid swab collection if tissue can be biopsied.** Place specimen in sterile container. Anaerobic transport can be used for both aerobic and anaerobic cultures. **Specimens in formalin are <u>unacceptable</u> for culture.**	Transport at ambient temperature; do not refrigerate.
Urine Culture (CXURN): **Sources**: Bagged, Clean Catch, Foley Catheter, Straight Catheter, Surgical, and Suprapubic.	Ideal sample is <u>clean catch mid-stream</u> urine; **randomly collected urine (non-clean catch) is <u>not</u> appropriate for culture**. <u>Bagged</u> urine can be used for pediatric patients. <u>Straight catheter</u> or <u>Foley catheter</u> urine is collected through the catheter; collect a fresh specimen. <u>Surgical</u> urine is collected via needle aspiration from a kidney or ureter during surgery. <u>Suprapubic</u> urine is collected by needle aspiration of the bladder. Urine in a BD Vacutainer Plus C&S Boric Acid Sodium Borate/Formate Tube.	Specimens should be refrigerated within 2 hours of collection. Refrigerated urine specimens are acceptable for up to 24 hours after collection. Boric Acid Sodium Borate/Formate specimens are acceptable at room temperature for 48 hours.
Wet Prep for Trichomonas, Yeast or Clue Cells (WETPR) **Sources**: Vaginal or GENI (for GENI, specify Bartholin Cyst, Cul de Sac, Endocervix, Labia, Penis, Placenta, Scrotum, Seminal, Uterus, <u>Urethra, or Vulva in "Site" field</u>).	Use sterile cotton or Dacron swab for collection. Swab in tube with <1 mL of saline, yet still enough to make a pooled area on a slide.	Transport to the laboratory without delay, ideally within one hour of collection (Trichomonas may not be viable after one hour).

Wound Culture (CXWND) **Sources**: Abscess, Biopsy, Bite, Drainage, Incision, Laceration, Lesion, Rash, and Ulcer (specify location in the "Site" field). Catheter (specify Arterial, Central, Chest tube, Intravascular, PICC, Subclavian or Swan Ganz in the "Site" field). Eye (specify Conjunctiva, Cornea, Tear duct, or Lid in the "Site" field). Gastric Tube Site, Suprapubic site, Trachea Site. Other is the "source of last resort"; if used, you must include a site.	Specimen should be collected from source that has clinical evidence of infection, or from wound that fails to heal over long period of time. For open wounds, debride and rinse with sterile saline. Use an ESwab (preferred) or other swab-based nonnutrative transport medium, such as Amies, to collect exudate from areas where there is pus or indication of inflammation and from the deepest portion of the lesion. For closed wounds, disinfect skin as for a blood culture collection. **Needle must be removed from syringe after collection (syringes with needle still attached will not be accepted)**, or the fluid can be placed in a sterile transport device. Anaerobic transport can be used for both aerobic and anaerobic cultures. **Specimens in formalin are unacceptable for culture.**	Transport fresh specimens to the laboratory without delay, at ambient temperature; do not refrigerate. ESwabs and other swab-based media are acceptable for up to 48 hours after collection . Store/transport swabs at ambient temperature, or 2–8°C.