Mid America Clinical Laboratories

Competency Module

Gram Stain Competency

Summer 2015

The first 2015 Gram stain competency assessment consisted of 7 patient slides and 3 multiple choice questions. Each slide consists of several digital pictures within a PowerPoint presentation. The table below summarizes the competency results for the network by slide.

|  |  |  |  |
| --- | --- | --- | --- |
| **Slide** | **Intended response** | **% Correct** | **Comment** |
| 1 | RARE-FEW POLYS | 100% |   |
| MOD-MANY GNR | 95% |
| RARE-MOD GPR or GPC | 98% |
| 2 | RARE-FEW POLYS | 94% | 38% of participants reported NOS |
| RARE-FEW GNR | 56% |
| 3 | RARE-FEW POLYS | 96% |   |
| RARE-FEW GNR | 92% |
| 4 | ACCEPTABLE SPUTUM | 99% | 14% of participants failed to report the presence or absence of epithelial cells  |
| NO or RARE EPITHELIAL CELLS | 81% |
| MOD-MANY POLYS | 99% |
| NOS or RARE-FEW GPC | 85% |
| 5 | SPUTUM NOT ACCEPTABLE | 96% |   |
| 6 | NO POLYS | 99% |   |
| 7 | RARE-FEW POLYS | 96% |   |
| 8 | Answer: 2,3 or 4 | 99% |   |
| 9 | Answer: 1 or 2 | 94% |   |
| 10 | TRUE | 98% |   |

* The average score for the entire network was 97%. No participants received a failing score. Review of the results showed consistency with quantitation and identifying organism Gram stain reaction, reporting polymorphonuclear cells and sputum acceptability. Inconsistency was observed with the thin Gram negative rods and reporting the presence or absence of squamous epithelial cells in sputum specimens.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Average score** | **Total associates** | **Failing scores** | **Failure rate** |
| Regional | 98% | 24 | 0 | 0.0% |
| SVIN | 97% | 22 | 0 | 0.0% |
| SVCR | 96% | 9 | 0 | 0.0% |
| SVWM | 97% | 7 | 0 | 0.0% |
| SVMR | 92% | 5 | 0 | 0.0% |
| SVJN | 99% | 8 | 0 | 0.0% |
| SVDN | 93% | 6 | 0 | 0.0% |
| SV Fishers | 99% | 6 | 0 | 0.0% |
| CHN | 98% | 17 | 0 | 0.0% |
| CHE | 95% | 13 | 0 | 0.0% |
| CHS | 96% | 11 | 0 | 0.0% |
| CHW | 91% | 7 | 0 | 0.0% |
| SVSA | 100% | 5 | 0 | 0.0% |
| SVJO | 100% | 13 | 0 | 0.0% |
| SVRA | 96% | 6 | 0 | 0.0% |
| SVAN | 93% | 16 | 0 | 0.0% |
| IOH | 100% | 4 | 0 | 0.0% |
| SVEV | 100% | 9 | 0 | 0.0% |
| **All MACL** | **97%** | **188** | **0** | **0.0%** |

* Slide 1 had a mix of Gram positive organism, both rods and cocci. The participants could not adjust the focus to differentiate the two morphologies. Participants were expected to report Gram positive rods and/or cocci.
* Slide 2 was a smear of amniotic fluid. Each picture had few to moderate thin spindle shaped Gram negative rods. 56% of participants correctly identified and quantitated the GNR. 38% of participants reported no organisms seen.
* Slide 4 was sputum smear to be evaluated for acceptability and reported as according to our procedure. 81% of participants correctly reported the absence or presence of squamous epithelial cells. 14% did not report squamous epithelial cells.
* Educational challenges will be distributed using the pictures from slide 2 to improve associates ability to identify lightly staining Gram negative rods.

**Corrective action and follow up**

* Individual competency results will be forwarded to the HBL supervisors. Associates who failed to attain 80% on the competency will review the slide set with the supervisor or designee and be provided additional training as required. Associates who failed to recognize key morphologies will review the corresponding slides.
* Slide pictures will be distributed periodically throughout the year to all sites as educational challenges in an effort to maintain competency.

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Manager Date Director Date

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QA Officer Date Medical Director Date