way of enhancing the value of laboratory practical teaching and learning resources within the veterinary theriogenology curriculum. Interestingly, a few of the reflective questions were formulated so as to not have answers that were known by the academic staff. The dissonance was relished by some of the cohort, those excited by investigation and research, but appeared to induce chagrin in a minority that were uncomfortable with the unknown. This was despite the whole group being made aware that this was a safe and fun environment that developed during the session. An important aspect of the peer review process has been the continued discussion between mentors and mentees in relation to enhancing teaching in general, and practical sessions in particular. The vibrancy associated with collegiate interactions between academic staff members and educational designers results in a more enthusiastic and beneficial teaching and learning environment.

**Keywords:** Abstract reflection, experiential learning, peer support

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## Agreement level among 4 techniques for analysis of stallion sperm morphology

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Analysis of sperm morphology is important for assessment of sperm quality and prognostication of fertility potential of stallions. Previous studies have compared various techniques for morphologic analysis of stallion sperm using correlation analysis or mean comparisons. We hypothesized that such approaches might lead to erroneous interpretations when comparing different methods of sperm morphologic analysis. The present study sought to determine the agreement level among four techniques for analysis of stallion sperm morphology: eosin/nigrosin staining (EN); diff-quick staining (DQ); wet mount using phase-contrast microscopy (PH); or wet mount using differential interference contrast microscopy (DIC – gold standard). Ejaculates from 12 sexually active stallions (n = 36) were collected and analyzed using each technique. A total of 100 sperm were observed under 1,000 x magnification and classified as described by the Society for Theriogenology (normal [N], abnormal head [AH], abnormal acrosome [AA], proximal droplet [PD], distal droplet [DD], abnormal midpiece [AMP], bent midpiece [BMP], and coiled tail [CT]). Based on the percent normal sperm observed by DIC microscopy, sperm morphology was categorized in each of 3 categories (n = 12/category) as high (H): > 57% normal sperm, average (A): 23 - 56% normal sperm, or low (L): < 23% normal sperm. Within each morphology category (H, A, L), the agreement level (bias, 95% lower and upper limits of agreement) was determined (Table). The results from this study indicate that the use of EN or DQ leads to an overestimation (negative bias value) of normal sperm, as well as an underestimation (positive bias value) of morphological defects that are known to impact stallion fertility, such as AH or AMP (values in bold). Most discrepancies among methods were observed in categories A and L. These results may affect the interpretation of sperm morphology evaluation and, thus, the estimation of stallion potential fertility.

**Keywords:** Stallion sperm, sperm morphology, stained smear, wet mount, agreement

| Category | Comparison | % N | % AH | % AA | % PD | % DD | % AMP | % BMP | % CT |
|---|---|---|---|---|---|---|---|---|---|
| High | DIC vs. EN | **-4 (-15, 7)** | **11 (7, 16)** | 4 (-5, 15) | -2 (-10, 7) | -1 (-17, 15) | **4 (-3, 11)** | 4 (-6, 13) | 0 (-4, 3) |
| | DIC vs. DQ | **-5 (-14, 5)** | **12 (3, 20)** | 4 (-5, 14) | 4 (-12, 4) | 3 (-11, 18) | **5 (-3, 12)** | 3 (-8, 13) | 0 (-3, 3) |
| | DIC vs. PH | **0 (-7, 8)** | **4 (-19, 10)** | 4 (-5, 12) | 2 (-10, 13) | 6 (-10, 22) | **-1 (-13, 11)** | 3 (-6, 11) | 0 (-2, 3) |
| Average | DIC vs. EN | **-11 (-29, -6)** | **12 (6, 18)** | 3 (-3, 8) | 6 (-17, 28) | -1 (-11, 9) | **8 (-9, 24)** | 4 (-7, 15) | 0 (-2, 2) |
| | DIC vs. DQ | **-7 (-23, 9)** | **4 (-4, 12)** | 3 (-4, 10) | 3 (-13, 18) | 0 (-14, 14) | **3 (-15, 21)** | 5 (-6, 16) | 0 (-3, 3) |
| | DIC vs. PH | **-1 (-15, 13)** | **3 (-22, 27)** | 1 (-10, 12) | 1 (-15, 16) | 0 (-10, 10) | **-4 (-20, 13)** | 1 (-8, 11) | 0 (-2, 3) |
| Low | DIC vs. EN | **-11 (-25, -5)** | **20 (17, 24)** | 5 (-7, 17) | 6 (-22, 34) | -2 (-11, 9) | **7 (-7, 20)** | 7 (-12, 25) | 0 (-8, 9) |
| | DIC vs. DQ | **-9 (-20, 3)** | **19 (14, 24)** | 3 (-3, 10) | 13 (-12, 40) | 0 (-20, 21) | **2 (-14, 17)** | 7 (-9, 23) | -1 (-8, 6) |
| | DIC vs. PH | **-2 (-10, 7)** | **6 (-26, 38)** | 1 (-16, 17) | 5 (-22, 33) | -2 (-17, 12) | **-3 (-23, 17)** | 5 (-14, 24) | -1 (-8, 10) |