**Journal Club – September 9, 2025 – Post Quiz - Part 1: Study Content (REGAIN & Haslam)**

**Q1. (Vail et al., 2024)**

In the REGAIN trial, what was the main finding regarding **1-year survival and ambulation** after hip fracture surgery?

A. Spinal anesthesia significantly improved survival and ambulation

B. General anesthesia significantly improved survival and ambulation

C. No significant difference between spinal and general anesthesia

D. Both groups had worse outcomes compared with historical controls

**Q2. (Ritz et al., 2022)**

What did the REGAIN pain analysis show about spinal anesthesia compared with general anesthesia?

A. Lower pain POD1 and fewer opioid prescriptions at day 60

B. Higher pain POD1 and more opioid prescriptions at day 60

C. Lower satisfaction despite similar pain scores

D. Better ambulation at 6 months but worse satisfaction

**Q3. (Haslam et al., 2024)**

According to best practice guidelines for **elective THA**, which of the following is *not* recommended?

A. Neuraxial anesthesia or regional infiltration as part of ERAS

B. Multimodal analgesia (acetaminophen, NSAIDs, LIA)

C. Early mobilization and reduced LOS

D. GA alone without regional or multimodal strategies

**Q4. (Applicability)**

Why can’t the results of REGAIN (hip fracture) be directly applied to elective THA?

A. Hip fracture patients are younger and healthier

B. Elective THA patients are older and more frail

C. Hip fracture is urgent, often frail patients; elective THA is optimized, ERAS-driven

D. Both populations are identical, so results are interchangeable

**Q5. (Critical Appraisal)**

What was a limitation of the REGAIN trial design?

A. No randomization

B. High crossover between groups and pragmatic analgesia management

C. Only single-center recruitment

D. No intention-to-treat analysis

**Q7. (Hazard Ratio)**

If a study reports HR = 0.75 (95% CI 0.60–0.95) for mortality with spinal vs GA, how should this be interpreted?

A. Spinal increases mortality risk by 25%

B. Spinal decreases hazard of death by 25%, statistically significant

C. Spinal decreases hazard of death by 25%, but not significant

D. There is no difference between groups

**Q8. (Odds Ratio vs Risk Ratio)**

Which of the following correctly distinguishes **Odds Ratio (OR)** from **Risk Ratio (RR)?**

A. OR is used for time-to-event data; RR for binary outcomes

B. OR is based on odds (p/1–p); RR is based on probabilities (p)

C. OR is easier to interpret than RR in all settings

D. RR is only used in case-control studies

**Q9. (Confidence Intervals)**

If the 95% CI for an odds ratio is **0.7–1.3**, what does this mean?

A. The result is statistically significant, favoring treatment

B. The result is statistically significant, favoring control

C. The result is not statistically significant, cannot rule out no effect

D. The CI is too narrow to be clinically meaningful

**Part 2: Statistics & Methods**

**Q6. (Forest Plot)**

In a forest plot, what does the **vertical line at 1.0** represent when showing hazard ratios?

A. Treatment superiority line

B. Line of statistical significance

C. Line of no difference between groups

D. Lower boundary of the confidence interval

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**Q10. (p-values)**

Which of the following best describes a **p-value**?

A. The probability that the null hypothesis is true

B. The probability of observing the data (or more extreme) if the null hypothesis is true

C. The likelihood that results will be replicated in another study

D. The confidence interval expressed as a percentage

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**ANSWERS:**

**Q1. (Vail et al., 2024)**

Correct answer: **C. No significant difference between spinal and general anesthesia**

REGAIN showed no 1-year difference in mortality, ambulation, or nursing home residence between groups.

**Q2. (Ritz et al., 2022)**

Correct answer: **B. Higher pain POD1 and more opioid prescriptions at day 60**

Paradoxically, spinal patients had worse early pain and higher later opioid prescribing, likely due to abrupt spinal offset and inconsistent multimodal strategies.

**Q3. (Haslam et al., 2024)**

Correct answer: **D. GA alone without regional or multimodal strategies**

Best practice in elective THA = ERAS with neuraxial/regional + multimodal. GA-only is *not* recommended.

**Q4. (Applicability)**

Correct answer: **C. Hip fracture is urgent, often frail patients; elective THA is optimized, ERAS-driven**

Hip fracture = elderly, frail, urgent, limited preop optimization.

Elective THA = planned, optimized, ERAS best practices → very different populations.

**Q5. (Critical Appraisal)**

Correct answer: **B. High crossover between groups and pragmatic analgesia management**

~15% crossover from spinal to GA. Analgesics weren’t standardized, which diluted effect estimates.

**Q6. (Forest Plot)**

Correct answer: **C. Line of no difference between groups**

For ratios, 1.0 = no effect. CIs crossing this line = not significant.

**Q7. (Hazard Ratio)**

Correct answer: **B. Spinal decreases hazard of death by 25%, statistically significant**

HR = 0.75 means spinal patients had 25% lower hazard of death. CI (0.60–0.95) does not cross 1, so significant.

**Q8. (Odds Ratio vs Risk Ratio)**

Correct answer: **B. OR is based on odds (p/1–p); RR is based on probabilities (p)**

OR = odds; RR = probabilities.

ORs often overstate effect size when event rates are high.

**Q9. (Confidence Intervals)**

Correct answer: **C. The result is not statistically significant, cannot rule out no effect**

CI includes 1 → may be beneficial, harmful, or no effect → not significant.

**Q10. (p-values)**

Correct answer: **B. The probability of observing the data (or more extreme) if the null hypothesis is true**

Key misconception: p-value ≠ probability null is true. It’s about how extreme your data are under the null assumption.