**Journal Club – September 9, 2025 - Pre-Quiz - Reading Check Questions**

(USE SCORE SHEET)

**Q1. (Vail et al., 2024 – REGAIN Outcomes)**

What was the **primary outcome** of the REGAIN trial?

A. Pain scores on postoperative day 1

B. Survival and ambulation at 60 days

C. 1-year mortality and functional recovery

D. Opioid prescriptions at 60 days

**Q2. (Ritz et al., 2022 – REGAIN Pain)**

In the REGAIN pain analysis, which group reported **higher pain scores on POD1**?

A. General anesthesia group

B. Spinal anesthesia group

C. Both groups equally

D. Neither group (pain was not measured)

**Q3. (Haslam et al., 2024 – BJA Education)**

According to Haslam’s review, which anesthetic approach is **not considered best practice** for elective THA?

A. GA alone

B. Neuraxial anesthesia

C. Regional infiltration analgesia

D. ERAS with multimodal pain control

**Q4. (REGAIN Population)**

Which of the following best describes the REGAIN patient population?

A. Elective hip replacement patients aged 40–60

B. Hip fracture patients ≥50, previously ambulatory

C. Trauma patients with multiple injuries

D. Nursing home residents only

**Q5. (REGAIN Interpretation)**

What was the key conclusion from REGAIN regarding spinal vs GA in hip fracture?

A. Spinal improved long-term survival

B. GA improved long-term ambulation

C. No significant difference in survival or ambulation

D. Spinal worsened mortality compared with GA

**What is a Forest Plot?**

A graph with blue and red lines

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**Definition:** A forest plot is a visual way to show **point estimates** (like hazard ratios, odds ratios, or risk ratios) and their **confidence intervals (CIs)** across groups or studies.

**Components:**

* **Dot/box:** the effect size estimate (HR, OR, RR).
* **Horizontal line:** 95% CI around the estimate.
* **Vertical line at 1.0 (for ratios):** “line of no effect.”
* If the CI **crosses 1.0**, the result is not statistically significant.

**Let’s Break It Down**

**1. Dot/Box = Effect Size Estimate (HR, OR, RR)**

**What it means:** This is the **best guess** of the treatment effect from the data.

* HR = Hazard Ratio (time-to-event).
* OR = Odds Ratio.
* RR = Risk Ratio.

**Analogy:** Imagine shooting an arrow at a target. 🎯

* The **dot** is where your arrow landed — your *best estimate*.
* But you know there’s always some wobble (uncertainty), which is shown by the line.

**2. Horizontal Line = 95% Confidence Interval (CI)**

**What it means:** A range of values where we’re 95% confident the *true effect* lies, based on sample size and variability.

**Analogy:** Think of the CI as the **blur around your arrow**.

* If you had infinite arrows (infinite data), you’d hit the bullseye.
* With one arrow, you might be off — so the CI shows how far off you could plausibly be.

**Wide CI = shaky aim (small sample, more uncertainty).**

**Narrow CI = steady aim (large sample, more certainty).**

**3. Vertical Line at 1.0 = “Line of No Effect”**

**What it means:**

* For **ratios (HR, OR, RR)**, a value of **1.0 means no difference** between groups.
* Example: HR = 1.0 → survival is the same under spinal and GA.

**Analogy:** Picture a **balance scale ⚖️**.

* The line at 1.0 is perfect balance — neither treatment tips the scale.
* Dots to the **left (<1.0)** mean spinal favored.
* Dots to the **right (>1.0)** mean GA favored.

**4. If the CI Crosses 1.0 → Not Statistically Significant**

**What it means:** If part of the line touches or crosses the “no difference” line, we can’t rule out that there’s actually *no effect*.

**Analogy:**

* + Imagine you’re guessing whether someone is taller than you.
  + If your CI is **5’6” to 6’2”**, and you’re 5’10”, the range crosses your height → you can’t confidently say they’re taller or shorter.
  + That’s what “not statistically significant” means: the truth might still be “no difference.”

**Knowledge Check - True / False**

**Q1.** If the confidence interval in a forest plot crosses the vertical line at 1.0, the result is not statistically significant.

**Q2.** The size of the dot or box in a forest plot usually represents the statistical significance of the result.