



Emergency Decision-To-Incision Interval: A Multidisciplinary Quality Improvement Project



E. Elkoumy¹, A. Ali¹, A. Rady², M, Sayed³, M.Dadoua⁴

Department of Obstetrics and Gynaecology¹, Department of Urology² Department of orthopaedics³ Faculty of medicine, MUST hospital , 6th October, Egypt. ²Obstetrics and Gynecology department, Health Plus center, Jeddah, Saudi Arabia ⁴

INTRODUCTION/BACKGROUND

Timely decision-to-incision intervals (DTI) are vital in emergency surgeries across obstetrics, urology, and orthopaedics. Delays can lead to increased morbidity and mortality. Standard DTI benchmarks include 30 minutes for category 1 emergency Caesarean sections (RCOG), 60 minutes for urological emergencies (AUA), and 6 hours for open fractures (BOA).

OBJECTIVES/AIMS

To reduce DTI in OBS& GYN , ORTHO and urology specialty , ensuring compliance with established clinical standards.

METHODOLOGY AND TEAM ROLES:

A QIP at MUST University Hospital Led by E. Elkoumy the project leader, first author, primary presenter, and coordinator, a 6month retrospective audit was conducted from July 2022 to Jan 2023 on 143 emergency cases (67 in O&G, 34 in urology, 42 in orthopedics). DTI compliance rates were 71%, 64%, and 73%, respectively.

Interventions to enhance OR availability, staff training, and emergency protocols were implemented over 3 months, by E. Elkomy. M.Dadoua ,A.Ali ,M.Sayed and A.Rady contributed with data collection and analysis , preparing reports and documentation . A 7month prospective reaudit was conducted from May to December 2023 on 158 cases. Stakeholders from surgical teams and anesthesia were involved throughout.

CONCLUSIONS

This quality improvement project effectively reduced decision-to-incision intervals by streamlining processes and improving OR efficiency. The initiative demonstrated the value of a multidisciplinary approach in improving emergency surgical response times. Continuous monitoring is recommended to sustain these improvements..

RESULTS AND PLAN

Post-intervention, DTI compliance improved to 93% in O&G, 87% in urology, and 96% in orthopaedics, with a significant reduction in mean DTI across all departments.

Action Category	Intervention	Timeframe
OR Availability	Reserve Room NO 4 exclusively for emergency cases ⁽⁴⁾	Immediate
Staff Training	Conduct training sessions on emergency protocols and efficiency for OR staff ⁽⁵⁾	1 month, Quarterly sessions ongoing
Emergency Protocols	Color-coded protocol for emergencies for each specialty ⁽⁶⁾	1 month, Train and roll out: 2 months
Data Collection/analysis	Systematically collect and analyze OR data to monitor compliance and improvements ⁽⁷⁾	2 weeks, Ongoing analysis
Preoperative Readiness	Implement a preoperative checklist to ensure patient readiness ⁽⁸⁾	2 weeks, Immediate implementation
Communication	Implement Kaizala (now Microsoft Teams) for real-time updates and coordination ⁽⁹⁾	1 month, Train staff: 2 weeks
Patient Flow	Streamline patient admission and discharge processes to minimize delays ⁽¹⁰⁾	3 months, Ongoing monitoring
Resource Management	Regularly update and maintain surgical equipment ⁽¹¹⁾	1 month, Monthly reviews
Performance Feedback	Set up a continuous feedback system for OR staff ⁽⁵⁾	1 month, Ongoing implementation

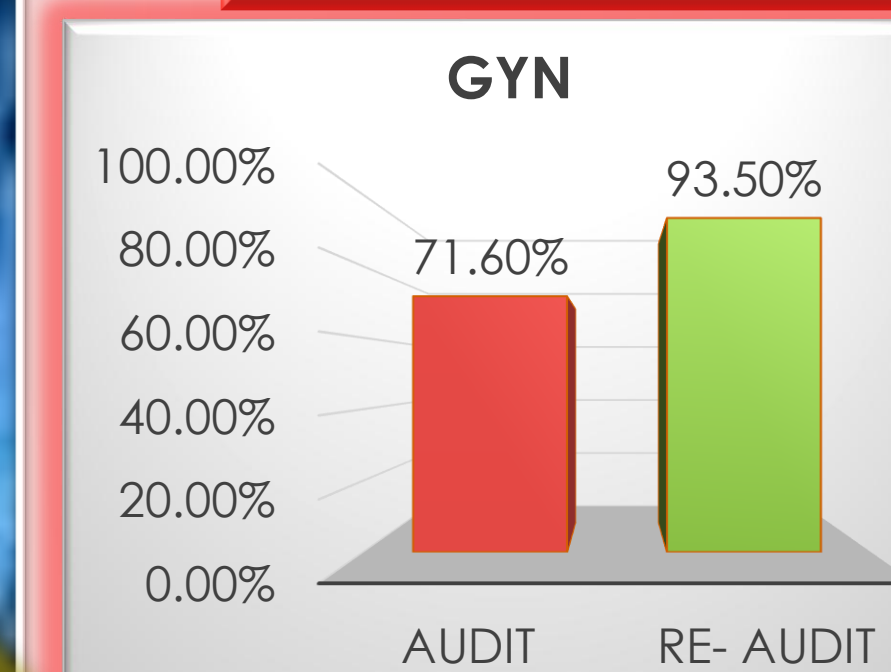


Figure 1: GYN & OBS surgeries

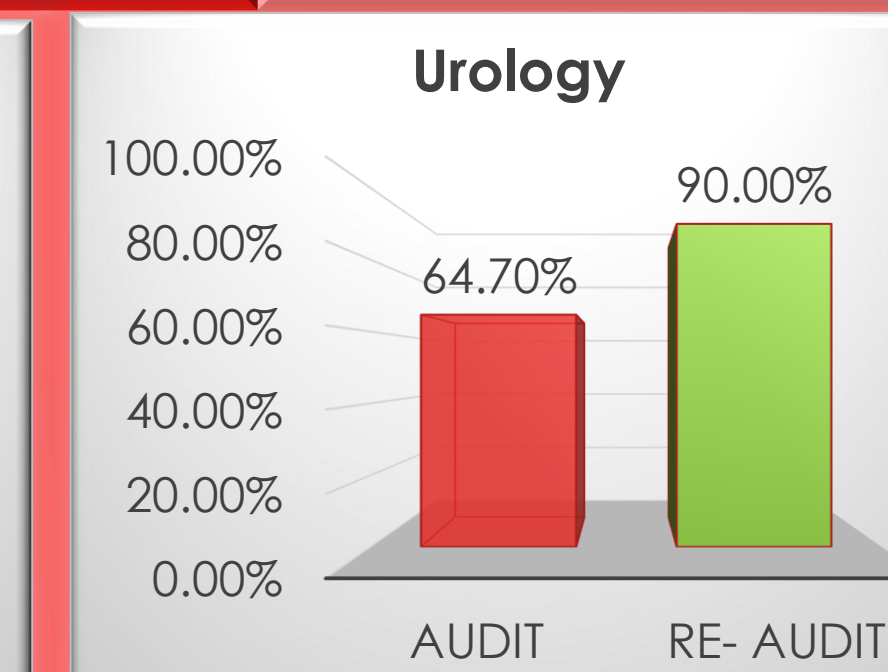


Figure 3: Urology surgeries

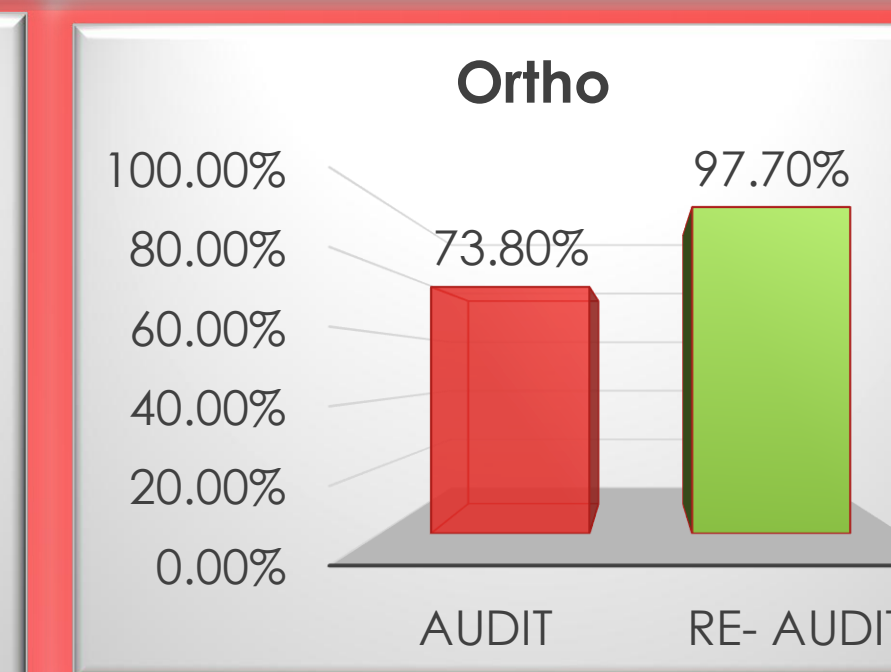


Figure 5: orthopedic surgeries

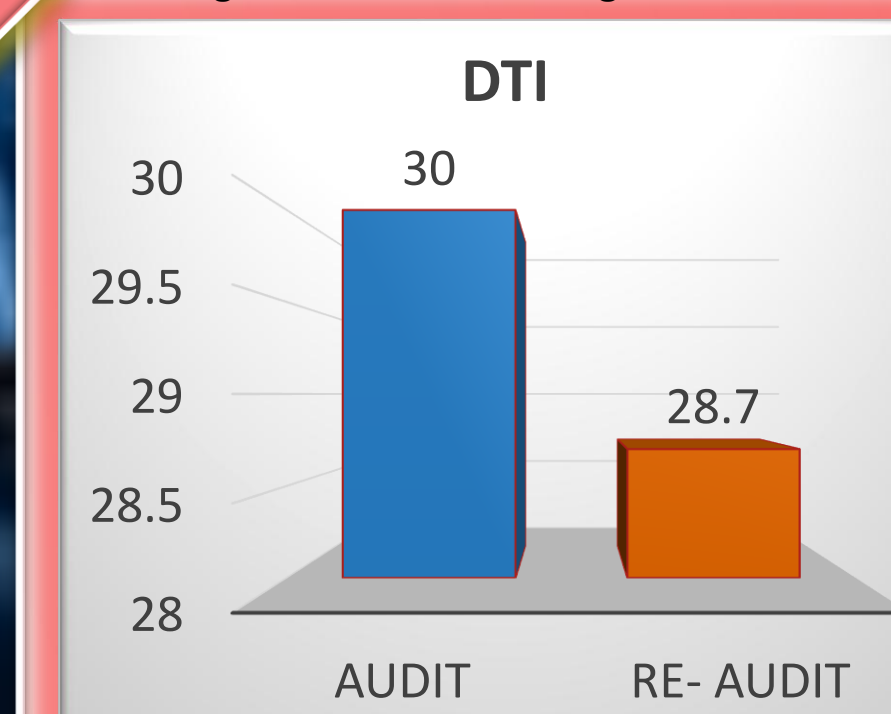


Figure 2: Decision to incision time in GYN&OBS

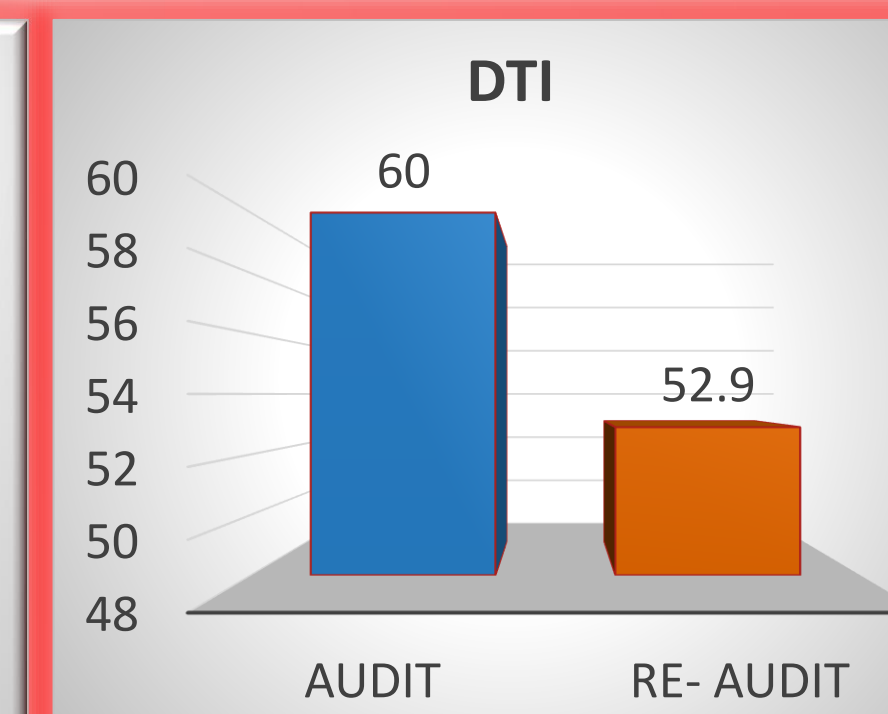


Figure 4: Decision to incision time in Urology

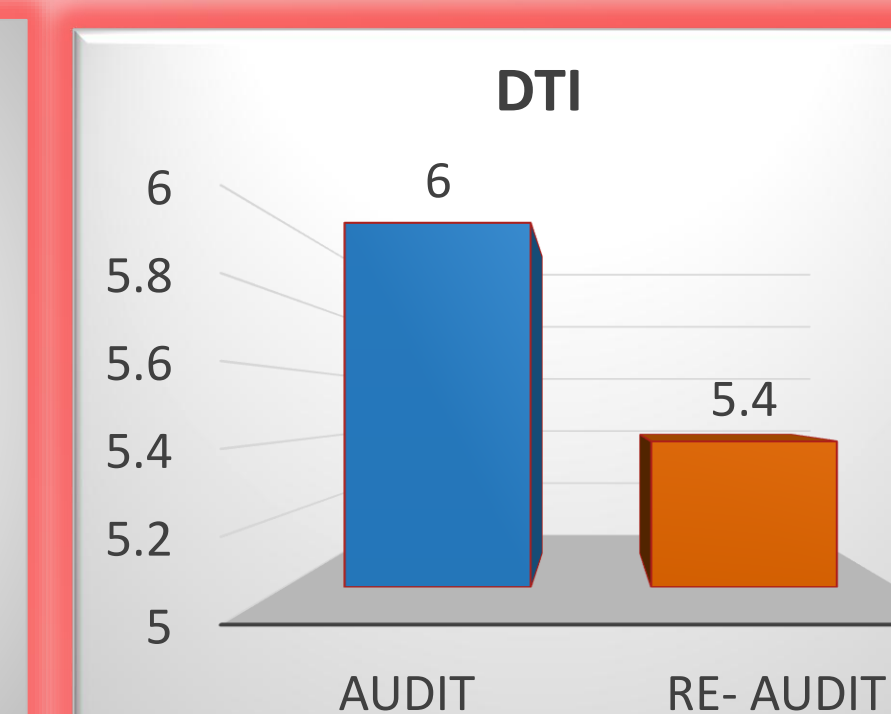


Figure 6: DTI in orthopedics

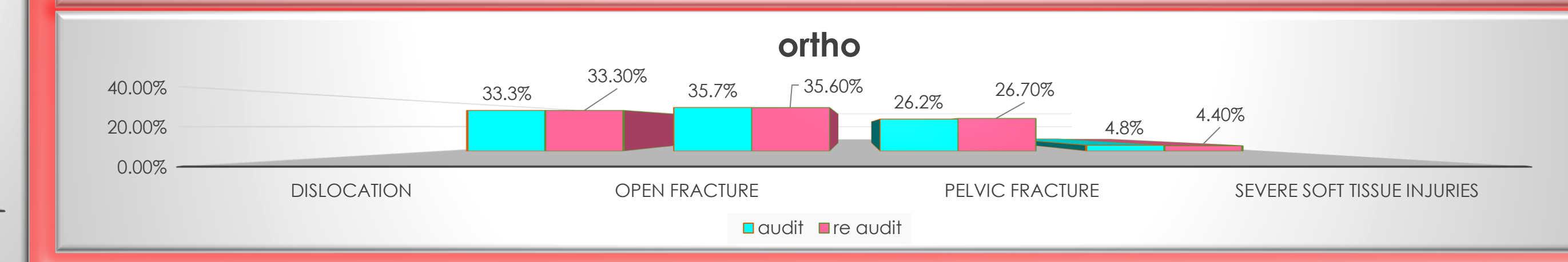
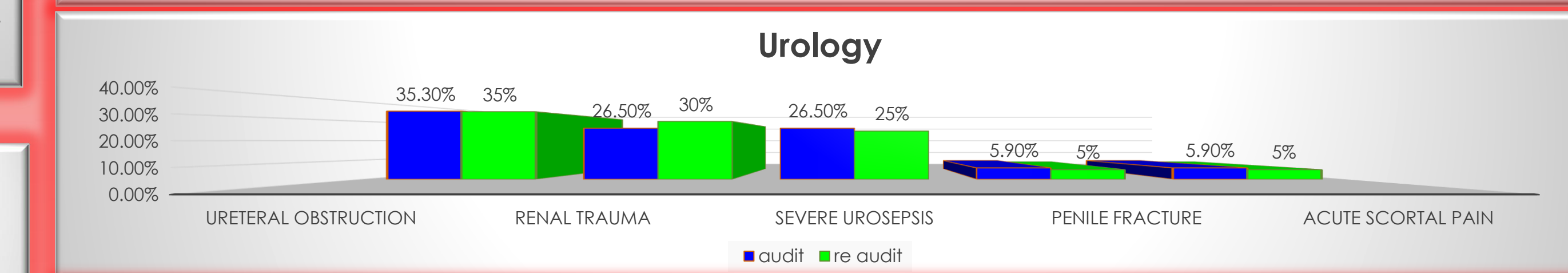
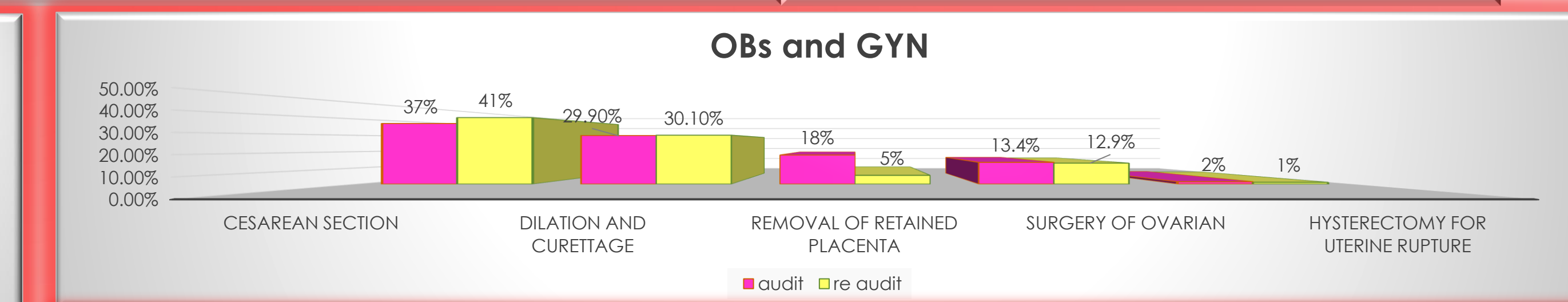


Figure 7: distribution of surgeries between audit and re-audit

CONTACT INFORMATION

Eslam Elkoumy (MSc , MRCOG) Assistant Lecturer. Obstetrics and Gynecology, Faculty of Medicine ,MUST university , Egypt.

Islam.Elkomy@skuh.must.edu
e_elkoumy@yahoo.com

REFERENCES

- 1 RCOG: Royal College of Obstetricians and Gynaecologists.
- 2 AUA: American Urological Association.
- 3 BOA: British Orthopaedic Association.
- 4 American College of Surgeons. ACS. 2018.
- 5 Institute for Healthcare Improvement. IHI. 2020.
- 6 The Joint Commission. Joint Commission. 2019.
- 7 Healthcare Financial Management Association. HFMA. 2017.
- 8 American Society of Anesthesiologists. ASA. 2019.
- 9 The Joint Commission. Joint Commission. 2019.
- 10 National Health Service. NHS. 2019.
- 11 World Health Organization. WHO. 2018.