SVOA Orthopaedics

ISSN: 2752-9576

ScienceVolks Open Access

Case Series

Early Experience of Total Joint Replacement After Restarting Elective Orthopaedic Services After Covid-19 in District General Hospital

Kashif A Memon[1*], Anshul Sobti[1], Oliver Stubbs[1], Charlotte Hope[1], Arshad Khaleel[1] and Kanishk Shah[2]

[1]Rowley Bristow Unit, Ashford and St Peter's NHS Trust, Chertsey, United Kingdom
[2]Prince Charles Hospital, United Kingdom

***Corresponding Author:** Kashif A Memon, Rowley Bristow Unit, Ashford and St Peter's NHS Trust, Chertsey, United Kingdom.*

***Received:** March 18, 2022* ***Published:** September 10, 2022*

Abstract

This study presents early experience of total joint replacement restarting elective orthopaedic services after COVID-19. Surgery was carried in in four different sites which were labelled as green zones. All patients were consented appropriately for their operations in context of the COVID19 pandemic. The findings suggested that elective orthopaedics have significant mortality risk. We presented 3 months results of joint replacements after resumption of elective services and the study concluded that the patient did not contract COVID-19.

***Keywords:** Total Joint Replacement, COVID-19, Elective Orthopaedic Services*

Introduction

As the 1st wave of COVID 19 passed, the challenge was safe resumption of elective surgical services, including elective orthopaedic services (1). A fatality rate of 20.5% was reportable during a cluster of thirty-four elective surgical patients who developed COVID - nineteen infection once being in an admitted to the first stages of crisis within the city China. (2) Recently within the multicenter international COVID Surge cohort study reportable mortality of 19.1% in a very cluster of 278 patients who noninheritable post- operative COVID-19 infection throughout admission for elective surgery. (3) These findings suggested that resumption of elective orthopaedics may have significant mortality risk. However, the patients enclosed within these studies received care early in the pandemic at intervals centres across many countries, with no predefined or standardised operative testing or risk stratification is strategy at a time once treatment protocols were speedily evolving. These figures were taken from an amount round the peak of pandemic and can be less relevant as we've approached the top of first wave of COVID-19 crisis (4).

Prevalence of the disease in community and among health workers was immediate challenge. Study by University of Cambridge found that in a sample of 1032 asymptomatic staff 3% tested positive of whom 1.6% remain asymptomatic. This is relevant once assessing risk of hospital employees to patient transmission. (5)(6)

Another study shows probability of any given patient being admitted for surgery with a false negative result's 0.07% or around one in 1400(6). This calculable chance is while not hard extra positive result of surgical risk stratification, self-isolation, thorough clinical assessment and implementation of many mitigating factors to scale back the chance to patient and employees. (4) Guidance was printed by NHS European country unitedly with country orthopedical Association and Royal school of surgeons relating to surgical priority throughout COVID nineteen and that they divided patients in four priority levels. (13)

NICE Recommended guidelines for planned care in hospitals and diagnostic services which includes preoperative, Intra operative, post-operative and ongoing care of orthopaedic patients (7). Guidelines before the episode of surgical procedure includes general health and well-being, self-isolation, what patient cannot bring with them as well as social distancing and hand hygiene measures. COVID-19 test 72 hours before surgery and assess the patient for COVID-19 symptoms on the day of surgery when they arrive for their care. During surgical procedure full PPE should be used, keeping with the trust or minimum level. Test in-patients to ensure they do not have COVID-19 before discharge to other care settings and general advice to patients about what they should do if they develop any symptoms within three weeks of the planned care. (7,8,9)

They also recommend that all the elective procedures should be done in green zones, with separate entrances and exit from rest of hospital. (10) In May 2020, BOA also issued guidelines for resumption of elective services after prioritizing patient after risk assessment. Patient are classified into low risk, moderate risk and high risk depending on risk assessment. They propose resumption of elective services in three phases. Low risk patients should be offered surgery as phase1. Arrange regular preoperative screening questionnaire and Covid-19 swabbing five days prior to surgery. The COVID nineteen screening form are continual once more forty-eight hours before surgery. (7,11) As such, we aim to share our experience of joint replacement surgery as elective orthopaedic procedures started in our district general hospital in July 2020.

Case Study

This prospective study was allotted at a vicinity General Hospital, Surrey, UK. Data was collected from July 3, 2020 to September 30, 2020. All the patients operated were included in this study. Surgery was carried in four different sites which were labelled as green zones. All patients were consented appropriately for their operations in context of the COVID19 pandemic.

Their information was recorded on a made-to-order surpass (™ Microsoft Office) information. Patient characteristics recorded enclosed demographic data, details of procedure performed, temporal arrangement to surgery and outcome of surgical intervention.

The Covid-19 check standing of the patients was recorded before surgery, throughout their hospital keep or within the community. All the patient who underwent surgical procedure was tested -ve for COVID 19. All members of the surgical team were permanent employees and that we used regular surgical instrumentality. All procedures were distributed with full personal protection instrumentation (PPE) cowl and as per tips of PHE. All surgeries were done in four different sites. Theatres were cleaned after each case along PHE guidelines.

The joint replacement done during this period was primary total hip replacement, primary knee replacement, Revision hip replacement, Reverse shoulder replacement.

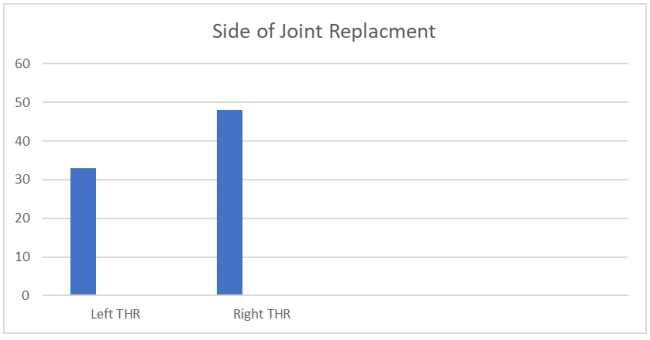
Results

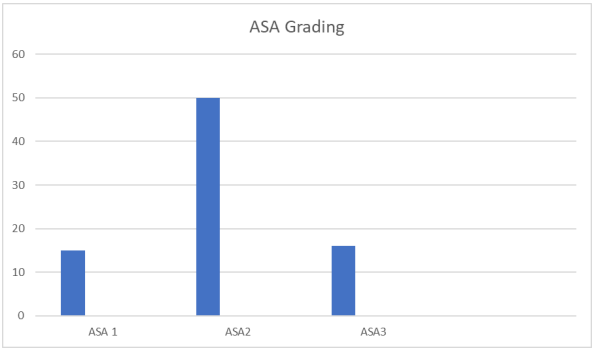
During the period July 2020 to September 2020 total of 81patient had total hip replacement.

We had 30 cancellations during this period. 12 patients were not fit for surgery due to different medial reasons, 9 patients did not required procedures, 6 patients cancelled surgery and 3 patients was cancelled due to lack of instruments on the day.

3 patients were operated for fracture neck of femur, 4 patient had revision total hip replacement and 74 patients for OA.

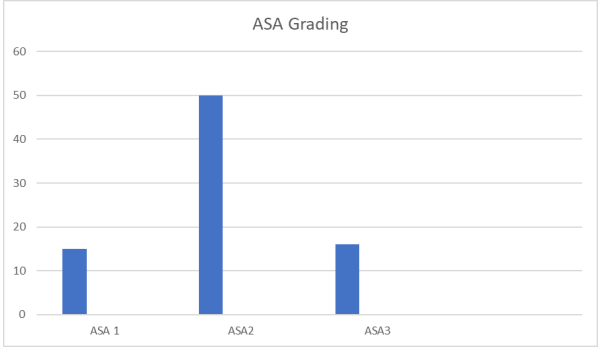
Left total hip replacement 33 Right total hip replacement 48.



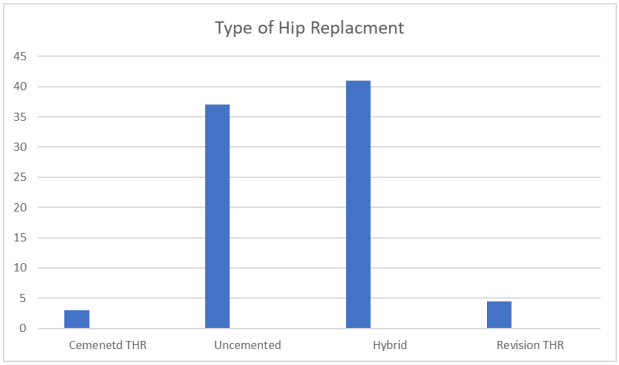


All patient had negative pre-operative and post-operative COVID status.

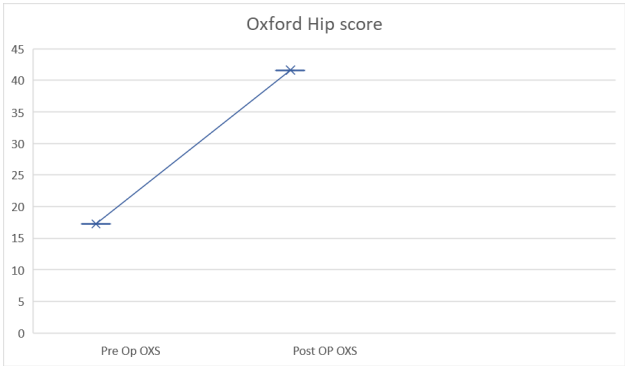
5 patients were ASA1, 50 patients were ASA 2, and 16 patients was ASA 3.



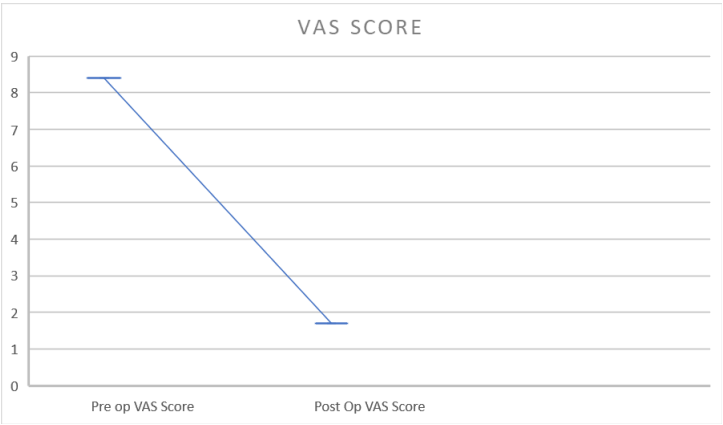
41 patients had Hybrid THR, 37 uncemented, 3 cemented and 4 Revision THR.



Mean pre-operative oxford hip score improved from 17.25 to 41.63.

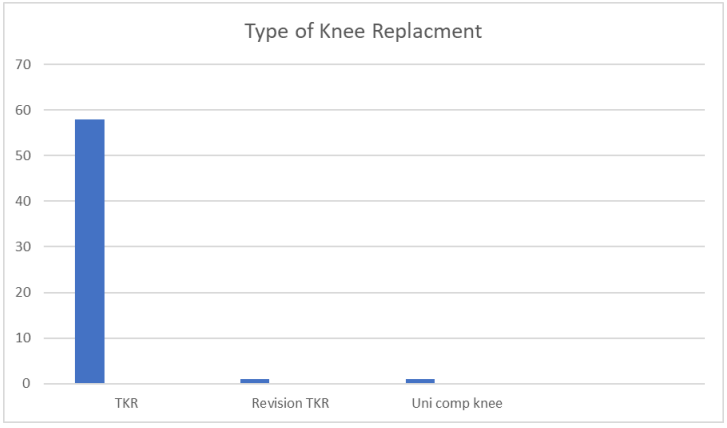


Mean VAS score improved from 8.4 to 1.7

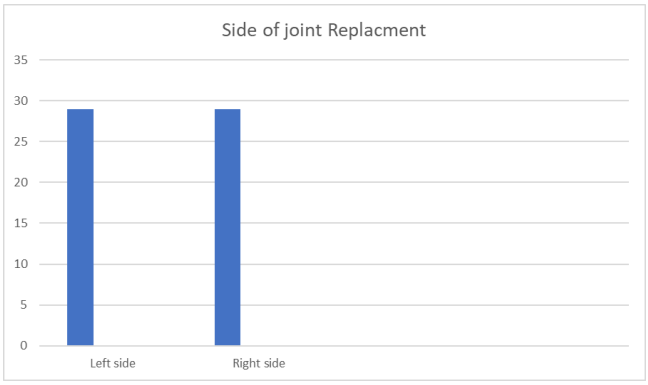


One patient died post operatively due to Bowel Obstruction and PE.

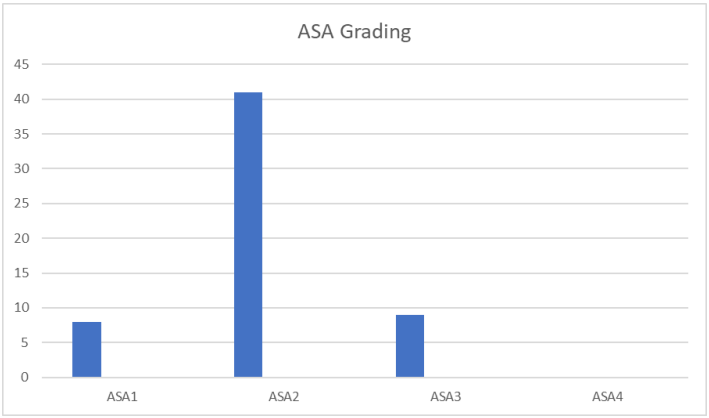
58 patient had total knee replacement, one patient had revision total knee replacement, one patient had unicompartmental knee replacement.



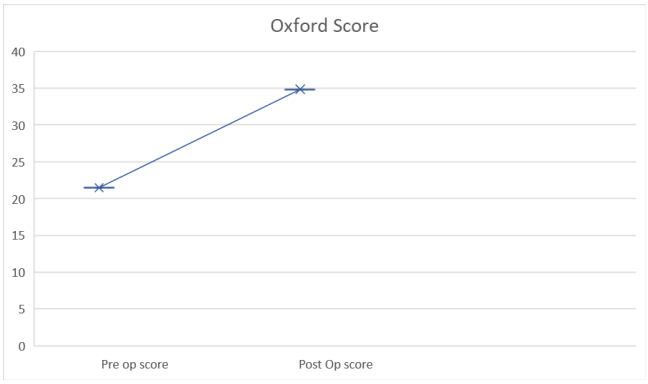
29 joint replacement were left, and 29 joint replacement were right side



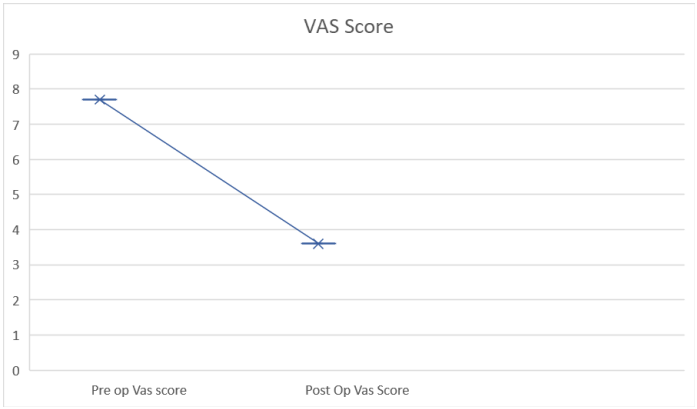
8 patients were ASA 1, 41 patients were ASA2 and 9 patients were ASA 3.



Average age was 67.74 years. Preoperative oxford knee score improved from 21.50 to 34.85.



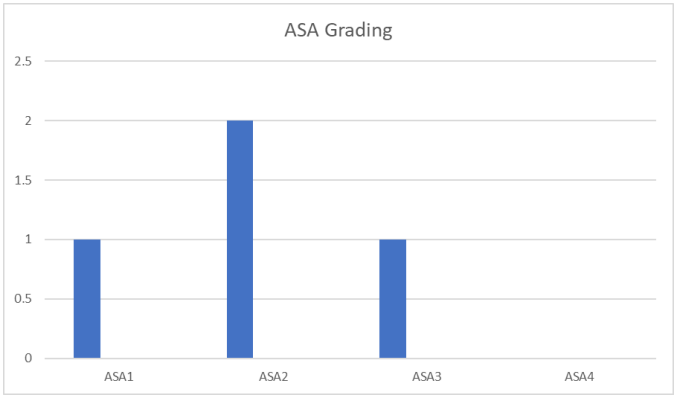
Preoperative VAS score improved from 7.7 to 3.6



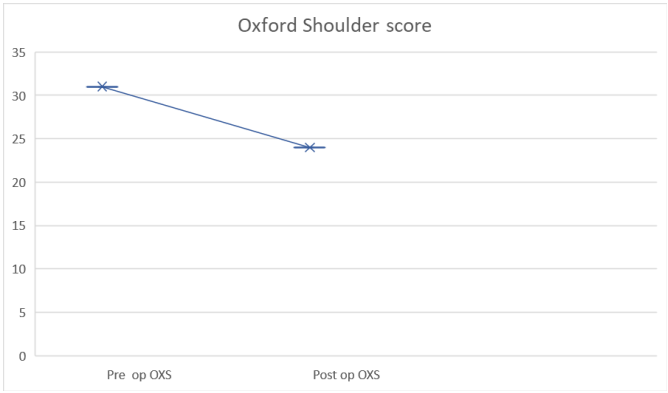
Complications: Two patients admitted with pain and discharged after pain control.

4 patient had reverse shoulder replacement. Average age was 67.5 years.

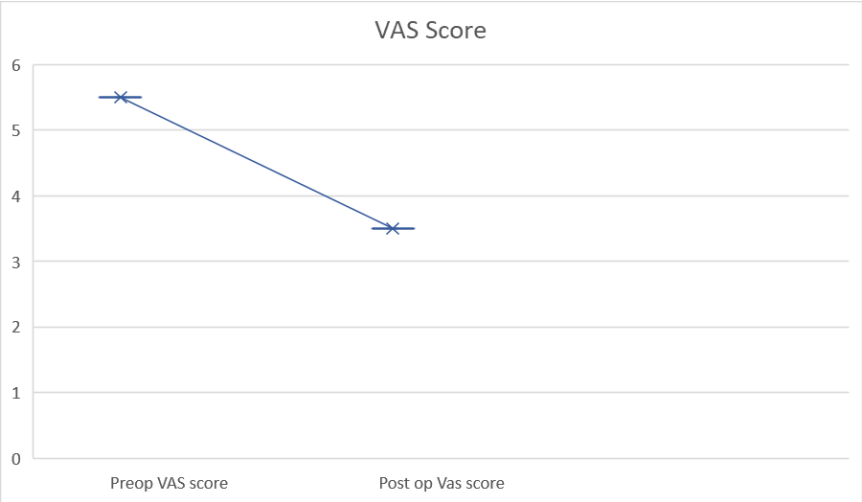
One patient was ASA1, 2 patients were ASA2 and one patient was ASA3.



3 shoulder replacement were on left side and one was right side. Pre op oxford shoulder score improved form 31 to post op score of 24.



Pre op VAS score of 5.5 improved to post op of 3.5



Discussion

This study was designed to share our data of early outcome of joint replacement after restarting elective surgical services, July 2020 to September 2020. The study from NHS Tayside shows approximately 80% fewer elective orthopaedic operations performed compared to previous years. The rate of health facility COVID-19 in our cohort was 0%, conjointly the} mortality among 30-days was also 0% (12). While our results suggest rate of nosocomial COVID 19 was 0%- and 30 -day mortality was 0.68%. A study from NewYork indicated a 12.1% rate of positive COVID-19 RT-PCR testing of patients screened before elective surgery (14). All patients had pre-admission willing phone calls highlight the risks of COVID-19 infection within the perioperative amount by the surgical team and were needed to sign a COVID-19 specific consent kind on admission.

There was specific protocol for the use of PPE in elective theatre and staff were advised to follow existing Government guidance whilst within theatre. Early within the pandemic, issues were raised concerning aerosol generating procedures (AGPs) and therefore the theoretical risk of spreading COVID-19 to personnel in the surgery by victimization high speed devices, periodical irrigation and modality (15,16)

Adequate in-patient physiotherapy provision was available prior to restarting orthopaedic elective services. Physiotherapy services across the world reported shifting their resources during lockdown from elective care to focus on unwell patients with COVID-19 (17)

It is presently unclear if physical therapy services in alternative regions can come back to traditional apply within the close to future, and therefore the impact of a discount during this service on elective surgical patients in other regions isn't identified.

Conclusion

We had presented early 3 months results of joint replacement after resumption of elective services. The study from NHS Tayside concluded that they did not identify a single patient contracting COVID-19 as part of their treatment, and no increased risks were identified at this early stage compared with undergoing orthopaedic elective surgery in 2019 or 2018. (12)

In our unit after resumption of elective surgical services, one patient with total hip replacement was died due to postoperative pulmonary embolus and bowel obstruction. All patients were COVID negative postoperatively. We had not observed any increased mortality as compared to other published studies.

Conflict of Interest

The authors declare no conflict of interest.

References

1. Restarting elective orthopaedic services during the COVID-19 pandemic Do patients want to have surgery? Justin Chang, Warran Wignadasan, Christina Kontoghiorghe, Babar Kayani, Sandeep Singh, Ricci Plastow, Ahmed Magan, Fares Haddad Bone Jt Open. 2020 Jun; 1(6): 267–271.

2. Clinical characteristics and outcomes of patients undergoing surgeries during the incubation period of COVID-19 infection. What are the implications for the commencement of elective surgery? EClinicalMedicine. 2020 Jun; 23: 100385.

3. Mortality and Pulmonary Complications in Patients Undergoing Surgery with Perioperative SARS-CoV-2 Infection: An International Cohort Study. Angela J Dell, Amer Harky, Alp Yıldız , Angelo Alessandro Marra. May 2020 The Lancet

4. The theoretical mortality risk of an asymptomatic patient with a negative SARS-CoV-2 test developing COVID-19 following elective orthopaedic surgery. Nardeen Kader, Nick D. Clement, Vipul R. Patel, Nick Caplan, Paul Banaszkiewicz, Deiary Kader The Bone & Joint JournalVol. 102-B, No. 9

5. Screening of healthcare workers for SARS-CoV-2 highlights the role of asymptomatic carriage in COVID-19 transmission. Lucy Rivett et elife. 2020; 9: e58728.

6. Coronavirus (COVID19) Infection survey pilot: 28May 2020

7.NICE publishes new COVID-19 rapid guideline on arranging planned care in hospitals and diagnostic services

8. No authors listed. Re-starting non-urgent trauma and orthopaedic care: Full guidance. British Orthopaedic Associate (BOA). 2020. https://www.boa.ac.uk/resources/boa-guidance-for-restart-full-doc-final2-pdf.html(date last accessed 17 June 2020).

9. No authors listed. NHS roadmap to safely bring back routine operations. NHS England. 2020. https://www.england.nhs.uk/2020/05/nhs-roadmap/ (date last accessed 17 June 2020).

10. Recovery of surgical services during and after COVID-19

11. Evidence based suggestions for the return to elective orthopaedic surgery following the COVID-19 pandemic 01 May 2020 By Sarkhell Radhaa, and Irrum Afzal

12. Re-starting elective orthopaedic services in NHS Tayside during the COVID-19 pandemic Peter SE.Davies , Robert JH.Sinnerton, AlasdairMacInnes, A lastair C.Faulkner Peter D.Hutchison. Thomas SW. Greensmith, LouiseRoberts ·BenedictClift ,The Surgeon 19 November 2020

13. Royal College of Surgeons. Clinical guide to surgical prioritisation during the coronavirus pandemic. https://www.rcseng.ac.uk/ coronavirus/surgical-prioritisation-guidance/. [Accessed 9 July 2020]

14. Universal testing for COVID-19 in essential orthopaedic surgery reveals a high percentage of asymptomatic infections. Gruskay JA, Dvorzhinskiy A, Konnaris MA, LeBrun DG, Ghahramani GC, Premkumar A, et al. J Bone Joint Surg Am 2020;102:1379e88.

15 COVID-19 coronavirus: recommended personal protective equipment for the orthopaedic and trauma surgeon. Hirschmann MT, Hart A, Henckel J, Henckel J, Sadoghi P, Mouton C. Knee Surg Sports Traumatol Arthrosc 2020:1e9.

16. Can efficient smoke evacuation limit aerosolization of bacteria? Schultz L. AORN J 2015;102:7e14.

17. COVID-19: maintaining essential rehabilitation services across the care continuum. Prvu Bettger J, Thoumi A, Marquevich V, De Groote W, Rizzo Battistella L, Imamura M, et al. BMJ Glob Health 2020;5.

Citation: Memon KA, Sobti A, Stubbs O, Hope C, Khaleel A, Shah K. "Early Experience of Total Joint Replacement After Restarting Elective Orthopaedic Services After Covid-19 in District General Hospital" *SVOA Orthopaedics 2022,* 2:5, 101-106.