The Use of Magnetic Expansion Control (MAGEC) system for the management of Early Onset Spinal Deformity(EOSD): Early Results in an African population in Ghana

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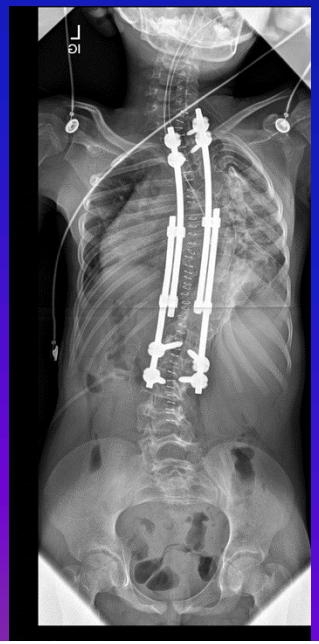
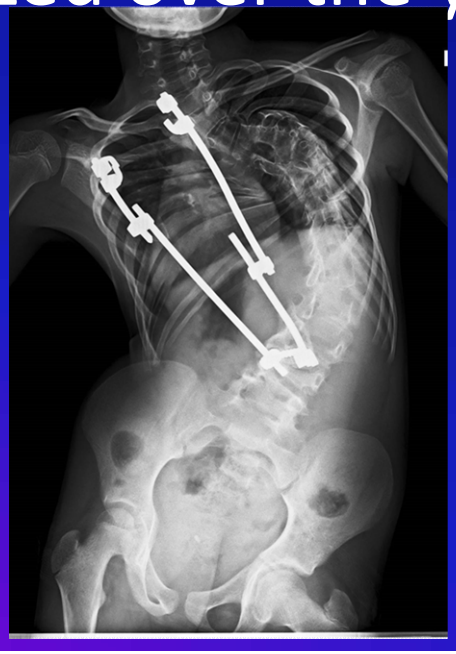
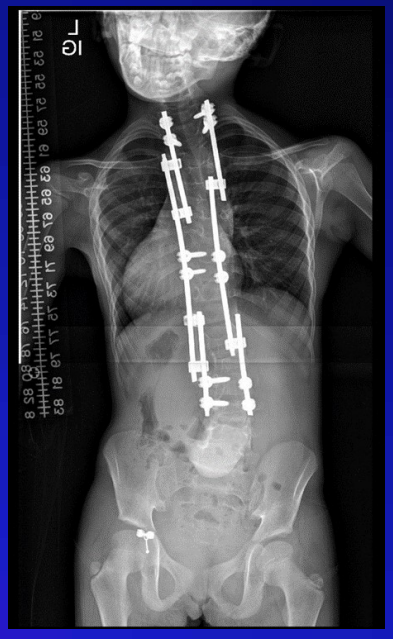
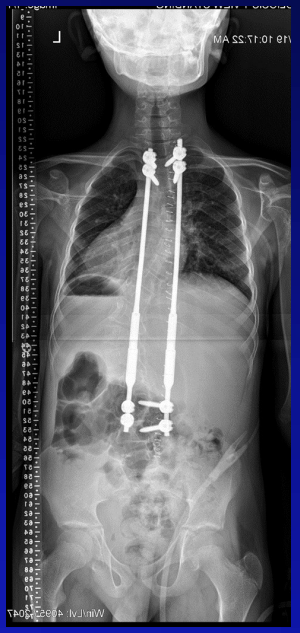
Background

The use of Growing Rod (GR) constructs for managing Early Onset Scoliosis (EOS) has revolutionized over the years.

Background

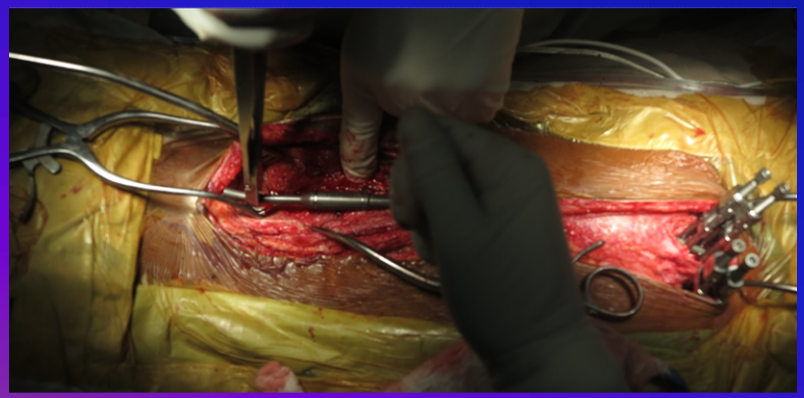
The MAGEC (MGFC) system is an innovative growth friendly construct that is rapidly replacing the other GFCs.

- Its application in under-served regions where there are large and neglected EOSD cases has not been adequately reported.

Methods

- Perioperative clinical and radiographic data of 41 EOSD pts who had MGFC from January 2018- June 2019 were reviewed.
- Patients underwent serial lengthening with External remote controller
- Descriptive statistical analysis was performed in Stata 14 software.

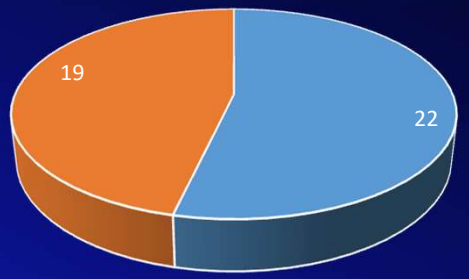
Application of MGFC



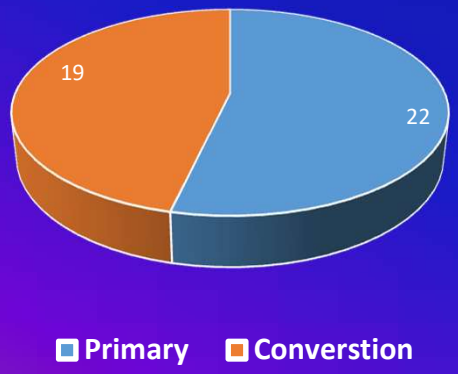
Results

Nationalities of patients	
Ethiopia	18
Ghana	16
Nigeria	2
Sierra Leone	5
Total	41

Gender



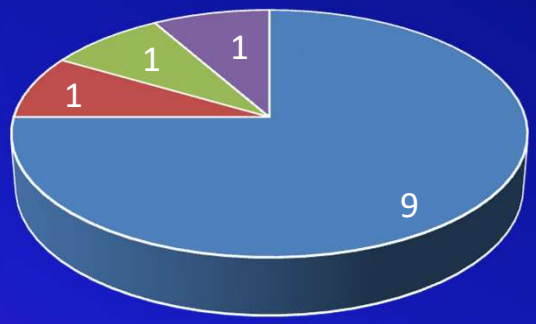
Type of Surgery



Intra Op Details	
Blood loss (mls)	351 [80-1900]
OR time (s)	170 [87-340]
Neuomonitoring changes	5(12.2%)
Incidental Durotomy	1 (2.4%)

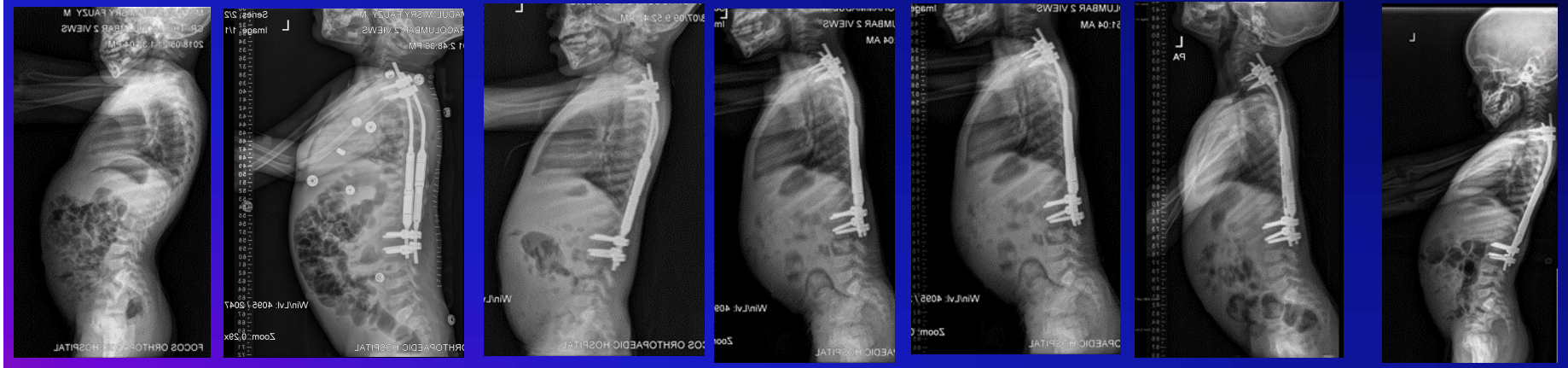
Results

Post Op Complications



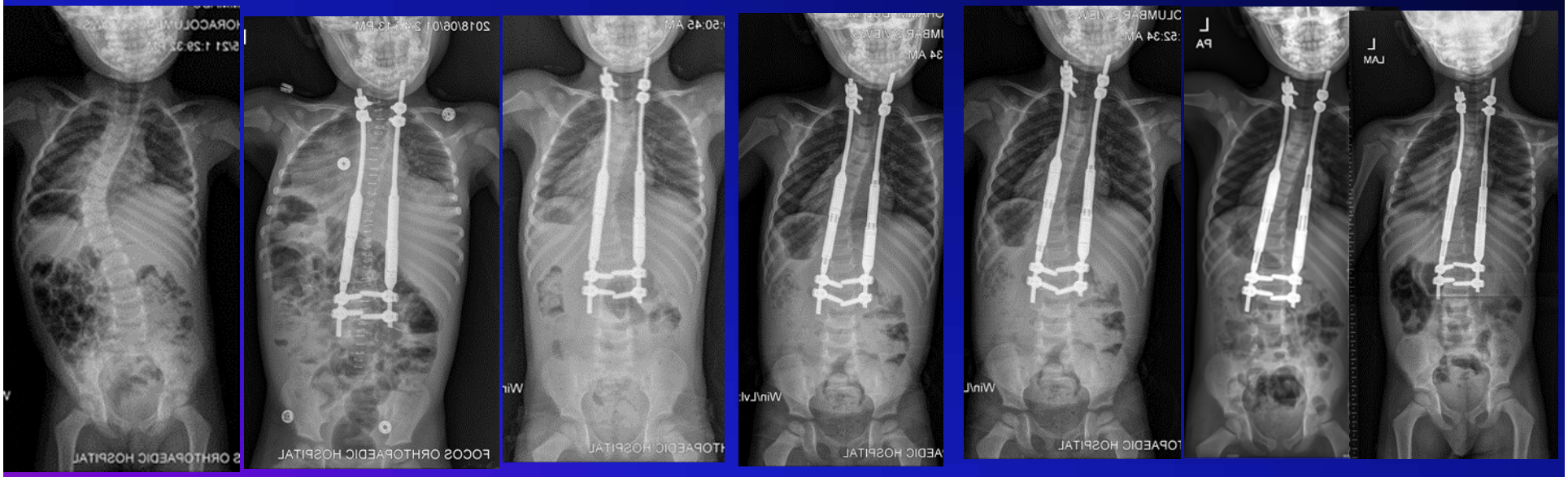
Lengthening No.	No of patient	Mean lengthening
Ist	33	4.21mm
2nd	30	2.96mm
3rd	17	3.02mm
4th	9	3.32mm
5th	2	3.00mm

Radiographic changes after 3 Monthly serial lengthening with ERC



Pre-op 3-month pop 6-month pop 9-month pop 12-month pop 15 month pop 18 month pop

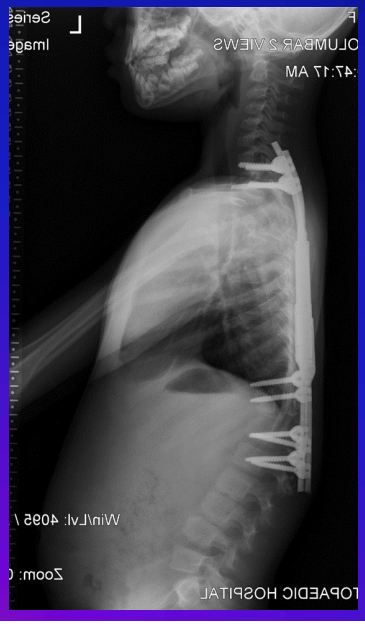
Radiographic changes after 3 Monthly serial lengthening with ERC

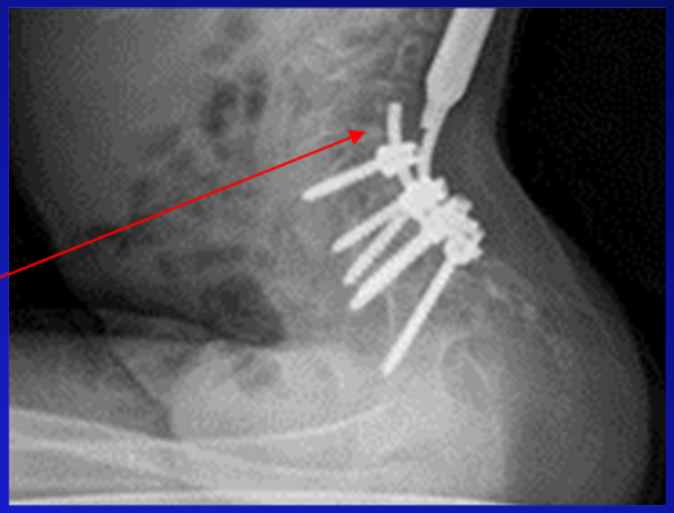


Pre-op | 3-month pop | 6 month-pop | 9 month-pop | 12-month pop | 15-month pop | 18 month pop

Discussion

- Implant related complications are still a concern with MGFC.





Conclusion

- The MGFC, while obviating need for repeated surgical lengthening, allows timely pts follow-up and lengthening even in remote regions in the outpatient setting.

THANK YOU