# BRIEF COMMUNICATION

## INTERVENTIONAL RADIOLOGY PRACTICE IN GHANA: THE CURRENT AND THE FUTURE

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## Summary

The interventional radiologist (IR) uses radiological image guidance to target therapy. Despite the ranges of services that IR offers to patients, it is still a mirage to many of our patients. This is as a result of lack of trained personnel, the high cost of procedures and consumables and low knowledge among health professionals on the benefit of IR services. For many developing countries like Ghana IR is in the infantile stage and now taking off.

The aim of this paper is to highlight the scope of IR services and discuss the future of this subspecialty in Ghana. This paper will sensitize health professionals on the scope of interventional radiology practice in Ghana now and the future.

***Key Words: Interventional radiology, Ghana, current and future.***

## Background

Interventional radiology (IR) refers to a range of techniques which rely on the use radiological image guidance (X-ray fluoroscopy, ultrasound, computed tomography [CT] or magnetic resonance imaging [MRI]) to precisely target therapy. Most IR treatments are minimally invasive alternatives to open and laparoscopic (keyhole) surgery. As many IR procedures start with passing a needle through the skin to a target (It is sometimes called pinhole surgery)1. The essential skills of an interventional radiologist are in diagnostic image interpretation and the manipulation of needles and the use of fine catheter tubes and wires to navigate around the body under imaging control. Interventional radiologists are doctors who are trained in general radiology and then superspecialize in interventional therapy making them a unique group of health professionals. There is hardly any area of medical specialty where IR has not had some impact on patient management outcomes. The interventional radiologist has many operational techniques. The range of conditions which can be treated by IR is enormous and continually expanding. It is important to recognise that the interventional approach is usually one of several treatment options available. Assessment for IR is done case by case and guided by current available evidence.

Well recognised advantages of these minimally invasive techniques include reduced risk of complications, shorter hospital stays, lower costs(sometimes), greater comfort, quicker convalescence and return to work. IR plays an important role during palliation for many advanced malignancies with especially malignancies of the hepatobiliary system[1].

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### The Ghana Story

During the early 1990's radiologist were performing angiography and image guided biopsies in Ghana with little or no formal training. In 1990, Korle-Bu Teaching Hospital had 2 general radiologists. Since a little over the past 2 years, the full range of Vascular and Interventional radiology services have been introduced at the korle-Bu Teaching Hospital and the National cardiothoracic center. Over five hundred (500) cases have been done successfully over the last 2 years with about 15% of these patients coming from other countries within the West African sub region. Complication rates have been very low (less than 2%).

Commonest indications include masses requiring tissue biopsies, post-surgical and hepatic abscesses, different stages of Hepatocellular carcinoma, obstructive malignant jaundice. Some of the complications encountered during these procedures include stent migration and stent fracture, contained subcupsular haematoma and post-embolization syndrome. Training in IR in Ghana is still in the embryonic phase as the two colleges involved in certification of radiologist are still turning out general diagnostic radiologists. The West African College of Surgeons (WACS) and the Ghana College of Physicians and Surgeons (GCPS) have till date turned out over 50 radiologists in Ghana. The training however is still in general diagnostic radiology and yet to formally start any sub specialization training.

Ghana with a population of over twenty-six million people[2] has just one certified interventional radiologist (2014) who trained at a centre in Asia (Singapore General Hospital). Undertaking a range of vascular and Interventional radiology services. Many patients have benefitted from the wide range of IR services in Ghana.

Some of the current procedures include but not limited to the following in the table below

**Table 1:** Breakdown of interventional procedures undertaken over two years

| **Vascular Interventions** | |
|---|---|
| Transcatheter Arterial Chemoembolisation (TACE) | 35 |
| Percutaneous Angiography, Angioplasty and stenting | 23 |
| Percutaneous Thrombolysis | 5 |
| Central venous catheter insertions | 27 |
| IVC Filter insertions | 5 |
| Uterine fibroid embolization | 4 |
| Bronchial embolization | 2 |
| **Non Vascular** | |
| Biopsies | 164 |
| Abscess drainage | 63 |
| Microwave Tumor ablation | 15 |
| Fallopian tube recanalization | 14 |
| Percutaneous Gastrostomy feeding tube insertion | 18 |
| Nephrostomy Tube and DJ stent insertions | 60 |
| Biliary drainage and stenting | 50 |
| Radiofrequency ablation treatment for venous insufficiency | 4 |
| Nerve block treatments | 22 |
| Percutaneous Ethanol Injection | 14 |

Despite the numerous advantages that IR offers to patients, there remain major challenges to the growth of IR in Ghana. Some of these include limited trained human resource (the current IR team is made up of one interventional Radiologist, a nurse and a radiographer). There is an urgent need to train more people to join the team and eventually expand the scope of these services. Access to consumables such as the appropriate catheters, guide wires, balloons etc is a major hurdle- Because IR is a fairly recent subspecialty and since the numbers are just going up, many vendors are reluctant to commit to the market.

The high cost of some of the procedure is usually due to high cost of consumables and for this reason some patients do not get the benefits of these lifesaving minimally invasive procedures. Knowledge among medical practitioners on the benefits of IR is still low and massive educational campaign is needed to create a paradigm shift. To this regard the Ghana society Of Interventional Radiology (GSIR) was formed two years ago to promote knowledge and encourage the adoption and practice of IR and to promote the science and art of IR in Ghana. This society also has five associate Ghanaian IRs living and practicing in the USA. They are willing to come to Ghana during selected times of the year to offer teaching and service.

**The Future**

With the rise of non-communicable diseases among Ghanaians and increased life expectancy, there will be increased demand for IR services.

There is the need to create a faculty within the radiology faculty of the Ghana college of Physicians and surgeons to help train more IR.

The bridge with the Ghanaian interventional radiologists in the diaspora should be strengthened and supported to encourage them to visit and offer both service and teaching annually.

## Reference

1. British society of Interventional radiology (http://www.bsir.org/patients/what-is-interventional-radiology/)
2. Ghana Statistical Survey