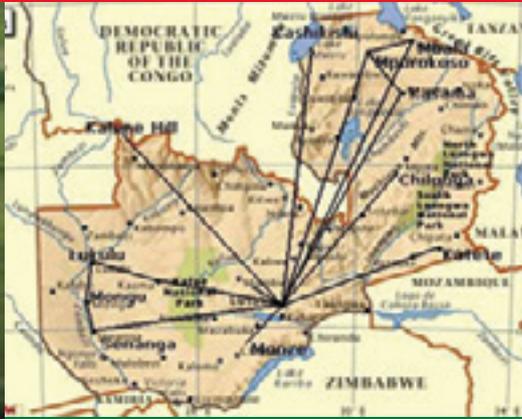


FLYSPEC NEWSLETTER



**FLYING
SURGICAL SPECIALISTS**

ZAMBIA

OUTREACH

WINTER 2020

FlySpec, Zambia's specialised medical flying doctor service has brought dedicated and skilled orthopaedic and reconstructive plastic surgery to individuals in remote and rural communities since the early 1980s. Such specialised treatment would otherwise not be possible for the people living in areas outside Lusaka, the capital city of Zambia. Most patients simply cannot afford either the money or the time to make the journey to Lusaka.

FlySpec delivered surgery can be both lifesaving and life changing for many people, enabling them to live a productive life within their community. Most of the patients treated by the service are children. Surgery aims to treat congenital deformities such as club foot, cleft lip & palate, bone and joint infections, neglected fractures and burns of all ages including resulting contractures.



This edition of the Newsletter gives an overview of FlySpec activity despite the challenges faced as a result of the Covid pandemic.

We have included a clinical photo gallery highlighting the crucial work that is continuing to be carried out despite ongoing adversity and austerity

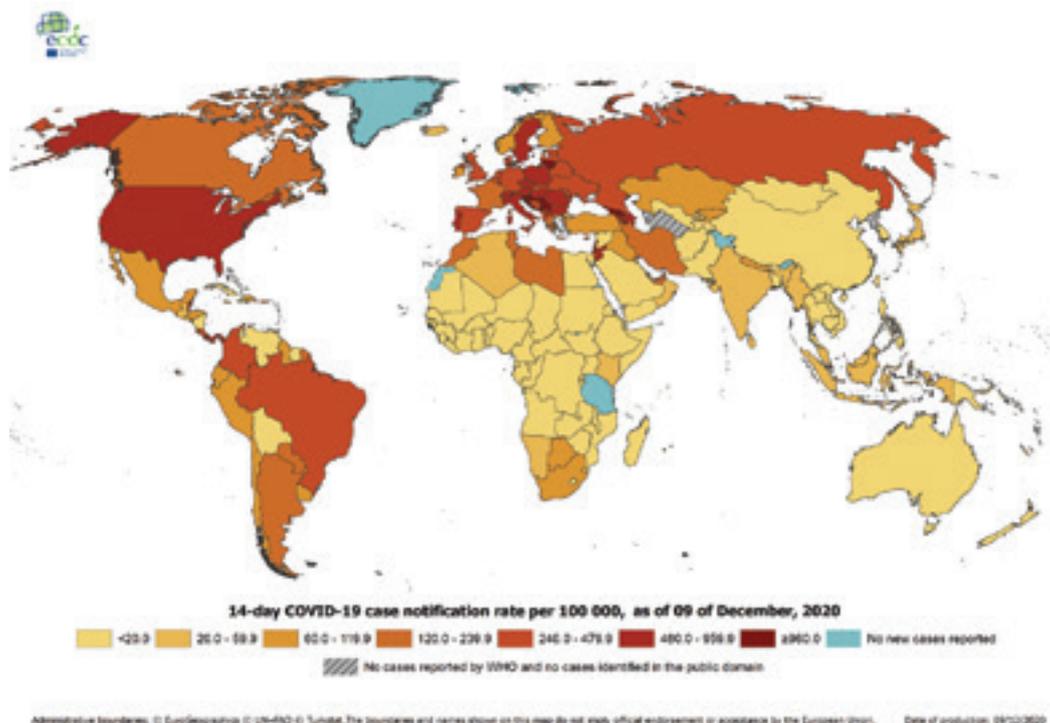


Covid 19 in Africa

Covid 19 in Africa – Impact and Current Status

Despite the disease, poverty and poor health care infrastructure in many African countries the anticipated Covid 19 explosion has not happened.

Africa has experienced amongst the lowest number of fatalities of all the continents (against the WHO prediction of 190,000 Covid deaths in Africa in May 2020). In all **54,963** deaths (Statistica - 9 Dec 2020) have been reported for the whole African continent and while this unexpectedly low number may include an under reporting of deaths, hospitals and health care facilities have not reported large numbers of patients presenting with Covid symptoms or an increased numbers of deaths.



COVID 19 -Worldwide Prevalence

The reasons for these unexpectedly low numbers are thought to be multi factorial.

AGE

Covid 19 is known to seriously affect older populations

The majority of African countries have a very young population – 50% of Zambians are children and as much as 75% of Africa’s population are under the age of 35 years.

TRAVEL

Travel to Africa is less than other continents (with the exception of South Africa which has the highest numbers of Covid deaths within Africa).

INFECTION CONTROL MEASURES

Africa is experienced in dealing with Ebola outbreaks and at the start of the Covid 19 pandemic a number of African countries applied Ebola prevention strategies early on including implementation of infection control measures at international airports (ahead of many other countries in the world).



Covid 19 in Africa

Higher Levels of Immunity

Other factors thought to confer increased levels of immunity to Covid 19 in Africa (and are the subject of ongoing research) include malaria treatment, particular TB vaccinations and high Vitamin D levels.

Current Status

The pandemic has had a significant impact on African countries, with worsening poverty levels and negatively impacting ongoing sustainability programs. The number of children being immunised and those participating in uptake of malaria prevention programs has dropped. Reduced cross border trading, job losses and drastic reduction in tourism have all contributed to an economic downturn. Closure of schools

during lockdown has led to an increase in the number of teenage pregnancies and child marriages in a number of African countries

In Zambia schools, educational institutions, restaurants, bars and airports were all shut down at the end of March with 'social distancing' and the mandatory wearing of masks in public spaces being part of Covid control guidelines. Communication to the public has mainly been through Facebook and local radio.

Much of the testing has been centralised in Lusaka however difficulties acquiring appropriate testing reagents and supplies is an ongoing problem



Dr Goran Jovic examines clinic patients wearing available PPE



Some patients wear masks while waiting to see the doctor



Covid 19 in Africa

Chilonga Mission Hospital



Hand Washing Facilities at Chilonga Mission Hospital

In many areas of Zambia access to clean water is very difficult and clinical staff struggle to provide basic hygiene and antiseptic conditions





CLINICAL WORK & TEACHING CONTINUE THROUGHOUT THE COVID CRISIS



Surgical Trainee Dr Mtonga Matolase is currently undertaking the MMed surgical program at University Teaching Hospital Lusaka (UTH). She sits her final MCS surgical exam in December (2020) after which she is intending to undertake specialist Plastic Surgery Training.

Dr Goran Jovic is the only consultant Reconstructive & Plastic Surgeon in Zambia and is responsible for training upcoming surgeons. Accompanying Goran on FlySpec visits allows the trainees to see the whole spectrum of pathology in the country, not just the conditions presenting to the main teaching hospital in the capital Lusaka. Opportunities to learn and assist at common surgical procedures for burns (particularly in children), congenital deformities such as Cleft lip and palates, limb deformities, along with trauma management provides invaluable experience for the Zambian surgical specialists of tomorrow.

Dr Matolase has worked with Dr Jovic, accompanying him on FlySpec visits since 2017.



Learning from the expert:

Dr Jovic teaches Dr Matolase and the team at Chitokolokee how to repair a cleft lip and palate in a baby



THE AVIATION PERSPECTIVE



CESSNA 182



CESSNA 206

FlySpec currently owns and operates 2 aircraft - a Cessna 182T and a Cessna 206H. These are well known and hard working aircraft very suited to the task of flying in Zambia. They however have to be maintained to very high standards to satisfy the Zambian Civil Aviation Authority's requirements for continued airworthiness release.

CESSNA 182

Our Cessna 182 engine became time expired this summer. All engines on Zambian registered aircraft require being overhauled every 12 years, with no provision for continued use on a "condition basis" as is often the case in Europe and the USA. This was despite the engine being in excellent health and maintenance status. The 182 is now in the process of being fitted with a newly overhauled engine and propeller. These items will cost in the order of US\$60000. We have been fortunate in being given significant

partial sponsorship from a US based charity, Wings Of Hope (www.wingsofhope.org) to obtain the overhauled engine from Texas Skyways in the US and have had the propeller overhauled in South Africa. We expect the 182 to be ready to return to operational flying in mid December 2020. Drs Jovic and Gregori have been successful in raising the required capital through donations and sponsorship from our generous supporters.



THE AVIATION PERSPECTIVE

CESSNA 206

The Cessna 206 can best be regarded as a flying pickup truck and is used extensively in Bush, Safari and harsh environment operations throughout the world, it is especially popular in Southern Africa. Operating in these harsh, dusty environments with high temperatures, rough airstrips and heavy use, the wear on these aircraft is notable and requires regular attention and preventative maintenance to keep flying safely. Our particular aircraft is fitted with extra long range fuel tanks.

ESSENTIAL MAINTENANCE

As part of ongoing maintenance for our 206 we have planned a series of essential maintenance and improvement tasks centred around safety and utility thus easing operation and future maintenance.

This will encompass rectifying issues around the aircraft's nearly 20 year old radios, GPS and autopilot (the avionics) along with repairing damage from stones to the undersurfaces of flying control surfaces. Exterior corrosion also needs dealt with and repainted. The interior requires some attention to deal with wear and tear in the seats and panels. If possible we plan to upgrade the 206 avionics and GPS systems to more modern resilient and functional "Glass Cockpit Avionics" though we have sourced a

selection of backup replacement units to allow us to continue with those in place, if funds don't allow the avionics upgrade. We plan to embark on this program immediately after the 182 returns to service over the "Rainy Season" when we have decreased aircraft utilisation in view of the unsuitable weather.

SAFETY EQUIPMENT

We expect to spend over £50000 to better equip the 206 to fly into 2030, providing a continued commitment by FlySpec to serving the rural surgical needs of Zambia. We have been kindly supported in doing this by a very generous grant from the Beit Trust of £40000, but we are still looking for sponsorship to ensure the avionics glass panel upgrade. The upgrade to solid state avionics and "glass panel" makes avionics more reliable, easier to use and maintain and easier to repair. Our flying relies on accurate navigation based on GPS navigation and reliable communications. A capable autopilot allows the surgeon to fly the long distance legs in a more relaxed manner especially in the difficult flying conditions that exist in Zambia through many months of the flying season. These avionics afford efficient flight planning, and enhanced safety margins.





THE AVIATION PERSPECTIVE



Landing at Chilongolo

THANK YOU

For the engine replacement in our Cessna 182 we are incredibly grateful to the following very generous donors:

Wings of Hope, MO, USA; Aylmer May Cemetery Restoration Trust, Lusaka Zambia; Dr Joe Hoffman San Francisco, Ca, USA; Sylvia and Donovan Grey, USA; Paul Osteen, USA; John Grant Alabama USA; Andy Oliver, Kent, UK; World Orthopaedic Concern UK.

In addition to the Beit Trust, we are also especially grateful to those fellow UK based pilots who have helped our efforts by sponsoring replacement units to keep the 206 flying safely until we have guaranteed funds to upgrade the avionics panel in 2021.

Thanks to Tony Watt, G Stevenson, J Sproat, East of Scotland LAA Strut and SOTDW Flying Group in helping us so generously.



THE WORK BEHIND THE SCENES

MEDAID International

Medaid International is an organization providing sustainable medical solutions, advice & training for those working in Low to Middle Income Countries (LMICs) across the world (www.medaid.org.uk). They provide necessary and environment appropriate equipment at lowest cost and have a wealth of experience

accumulated over many years in equipping LMIC hospitals. Much of the work undertaken by FlySpec and other charitable organisations utilizes donated medical equipment which may not be available in LMICs. Medaid is a great support for accessing vital equipment efficiently at the lowest prices.



Tim Beacon head of Medaid International & Consultant Orthopaedic Surgeon Alberto Gregori load donated surplus surgical equipment to be shipped to Africa

Medaid International Base in Bedford

Selecting essential surgical instruments to take to Africa





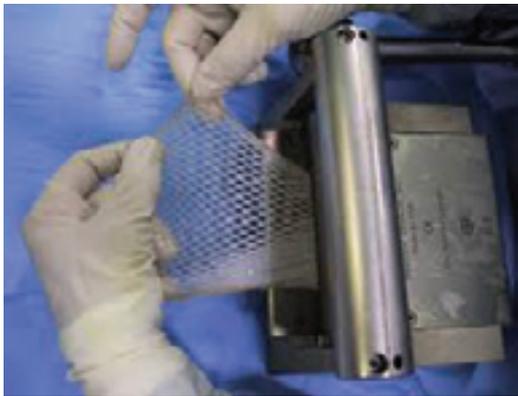
CORRECT EQUIPMENT HELPS PATIENTS

Having Suitable Tools makes a Difference to the Patients

Surgical instruments are essential tools for the surgeon with many being specialized to suit the work undertaken. Plastics & Reconstructive surgeon Dr Goran Jovic needs specialist tools to be best able to undertake skin grafting (most frequently in young children) and congenital deformity correction.

Instruments become blunt or wear out and must be replaced or repaired. Having a skin mesher

makes a big difference to the plastic surgeon. Skin taken from a healthy site to graft onto a denuded burned area covers three times the surface area of burn if it is first meshed ie small holes are made in the skin graft to allow it to be stretched over the injured area. This can be done accurately and almost instantly with a 'mesher'.



Skin Mesher frequently used for skin grafting burns in young children



Manual 'meshing' when skin mesher not available

This adds extra anaesthetic and operating time to the procedure which is not good for the patient, the majority of whom are babies and children under the age of 5 years.



FLYSPEC WORK

HELPING FLYSPEC

Many people have expressed their desire to help the valuable work undertaken by FlySpec. Below is a picture gallery with explanations and costs of some of the common operations performed by the Flyspec team. These operations dramatically change lives for the better restoring

mobility and function allowing many people to return to a normal life.

Operation costs also contribute to the price of aviation fuel and maintenance charges. Every penny donated to Flyspec is utilised to cover the cost of flight and surgery.

Common Operations Undertaken by Flyspec Surgeons:

Burns care throughout the LMIC (Lower Middle Income Countries) World is often poor and delayed as a result of poverty, lack of transport and poorly resourced and over stretched healthcare services. This can lead to dramatic contractures of the affected limb or even chest wall. The limb often becomes

unusable leading to loss of function and deformity. A surgical Release of contractures allows a return of mobility and function enabling independence and an ability to work

Cost - Operation Burns Contracture Release -Cost \$250





FLYSPEC WORK

Trauma – Fractured Limbs are common in both adults and children. Africa has a high incidence of Road Traffic Trauma



Recovered from surgery and very happy to be going home

INFECTION

Osteomyelitis – a painful chronic Infection with pus in the bone. This is usually spontaneous but can be associated with an open fracture.

Surgery involves opening up the bone and cleaning out infected material which relieves pain

and facilitates healing and mobilization. These operations often need to be repeated over the years especially if the problem was not dealt with quickly at the start.

Cost per Operation \$130.00





FLYSPEC WORK

Surgery for Blount's Disease



Blount's disease is a growth disorder of the shin bone (tibia) characterized by bowing of the lower legs that slowly worsens over time.

Surgery to correct the deformity is usually easier in younger children, involving breaking the affected bone and resetting it straight and placing it in plaster. Older children and adults will require more complex and difficult surgery.

The cost of Operations for Blount's in Children is usually about **\$130** but can be many times that for a young adult reconstruction.

Club foot is a congenital abnormality which is usually treated conservatively by manipulation and serial plasters 'The Ponseti Technique'. For this to work several attendances over many months are required along with an early referral. Whilst the Global Clubfoot Initiative (<https://globalclubfoot.com>) has brought teaching to

many rural areas throughout the world we still see late presentations where parents have simply been unable to take the child to hospital for this care. These children usually require surgery to correct the deformity, an operation that transforms lives allowing normal mobility and a return to function.



The cost of one Club Foot Operation is in the order of \$140.00



FLYSPEC WORK

Congenital Abnormalities **Gigantism of the Foot and Hand**

This condition is a common congenital abnormality in Africa. Apart from the difficulty with footwear, this condition comes with an associated stigma, it being popularly thought to be caused by a malevolent spell. Surgery aims to restore footwear

usability, more normal gait and avoidance of dysfunction in the upper limb.

Operation to appropriately reconstruct the limb;
Cost about \$130.



**‘A heart felt thank you to all’
especially ReSurge International and Smile Train
whose crucial support has allowed Flyspec to continue
working throughout the Covid 19 pandemic**



This is what donations are used to buy:

- Skin stapler for holding a skin graft in place. \$10.00 for 35 staples
- Crepe bandages for dressing limbs \$2.00 each
- One hour 's fuel and flying costs Cessna 206H \$260.00/hr
- Cessna182T \$240.00/hr
- OPERATIONS (average cost) \$130/surgery

You can transform a life



Donations

For UK Tax Payers all donations to FlySpec can be made via the following website:

www.wocuk.org so we can reclaim Gift Aid.

Please mark for FlySpec Zambia in the comments box.

Every donation helps no matter how small

MERRY CHRISTMAS AND A HAPPY NEW YEAR TO ALL OUR READERS