



**NZ Charitable Trust Number:** CC52875

**Email:** info@hearts4kids.org.nz

**Postal Address:** 15 Eastbourne Road, Remuera 1050

**Website:** www.hearts4kids.org.nz

**Our vision is to extend lifesaving cardiac care to children born in our neighbouring countries of the Pacific.**

---

## **2018 Paediatric Cardiac Surgical Mission to Fiji**

The Hearts4Kids Trust is a New Zealand volunteer medical team who provide free-of-charge lifesaving services to Paediatric patients born with congenital heart disease. There are no children's heart surgery facilities in the Pacific Islands. Our aim is to treat children with congenital and rheumatic heart disease who would not otherwise have access to surgery, due either to being too unwell to travel to an overseas facility or without the resources to be transferred. This was the fourth time our Paediatric Cardiac Surgical team have visited Fiji, following successful missions in 2014, 2015 and 2017.

### **Cardiology Triage Clinics prior to the mission**

Dr John Wright, Consultant Paediatric Cardiologist, visited Fiji 23<sup>rd</sup> to 27<sup>th</sup> July 2018 to assess and advise treatment on children with congenital and rheumatic heart disease. Clinics were held in Colonial War Memorial Hospital, Suva (23<sup>rd</sup> & 24<sup>th</sup> July - 1½ days – 36 patients), in Labasa (25<sup>th</sup> July - 1 day – 21 patients) and Lautoka (26<sup>th</sup> & 27<sup>th</sup> July - 1½ days – 20 patients). A total of 77 patients were seen in the clinic setting, plus a small infant in Paediatric Intensive Care Unit at CWM Hospital. 18 patients were short-listed for probable surgery.

### **Preparation for the mission**

Unfortunately, due to fire damage in the theatres late last year at Lautoka Hospital it was not possible to return there this year. It was not until May that we finally received confirmation that we could operate at Colonial War Memorial Hospital in Suva, following the Friends of Fiji Heart Foundation Adult team. With dates set, arrangements quickly got underway with a lot to organize in a short space of time. Once again financial sponsorship was sought, and requests made for medical equipment and supplies by donation, reduced cost, loan or purchase – and we were very appreciative that companies and organisations responded so promptly. Fundraising activities also got underway, including movie nights, quiz night, cocktail evening and a fashion show. In July equipment and supplies necessary for the mission were itemized, boxed, packed on pallets, and made ready for shipping by container to Fiji. Due to the late notification it was more difficult to arrange personnel, so this year a team of 36 people were on the mission, with some staying for a shorter period of time and others coming up to replace them.

### **11-14<sup>th</sup> September 2018 – Mission Setting Up**

Team members traveled from New Zealand to Fiji on 11<sup>th</sup> or 12<sup>th</sup> September; using Thursday 13<sup>th</sup> to unpack equipment and supplies and to set up theatre, intensive care unit and the post-operative ward. Meanwhile a Pre-Surgical Assessment Clinic was held on 12<sup>th</sup> & 13<sup>th</sup> September where 33 children were reviewed by Dr John Wright and Dr Kirsten Finucane, including several who were newly referred and required urgent treatment. Following this clinic, the final shortlist of 14 patients was drawn up to have operations over the five days of allocated theatre time. Of the remaining, some patients were able to wait for treatment until 2019, and others were assessed as too high risk to have operations in Fiji and were recommended for transfer to New Zealand. Some did not require operation and medical treatment was recommended. Several of the operations this time were more complicated than usual and more time for surgery was required and hence a reduced number were chosen.

### Hearts4Kids Paediatric Cardiac Team

| Designation                        | Numbers   |
|------------------------------------|-----------|
| Paediatric Cardiac Surgeon         | 1         |
| Surgical Assist/Surgical Registrar | 2         |
| Paediatric Cardiologist            | 1         |
| Cardiology Registrar               | 2         |
| Anaesthetist /Intensivist          | 3         |
| Perfusionists                      | 2         |
| Anaesthetic Technicians            | 2         |
| Theatre Nurses                     | 2         |
| ICU Nurses                         | 11        |
| Ward Nurses                        | 7         |
| Mission Co-ordinator               | 1         |
| Other volunteers*                  |           |
| - Student Volunteer/IT             | 1         |
| - Media Volunteer                  | 1         |
| <b>Total</b>                       | <b>36</b> |

\*Volunteers are partially self-funded

### Friday 14<sup>th</sup> - Tuesday 18<sup>th</sup> September 2018 – Operating Days

14 patients, aged between 7 weeks old and 20 years, with the youngest weighing only 2.0 kilograms were operated on over 5 days. Ten were heart bypass procedures and four non-bypass procedures. It was anticipated that the theatres would run from 7am to 8pm, however, on two days work continued until 9pm and another until midnight. Ten of the patients were from Suva area, one from Labasa and three from Lautoka area.

All patients had intra-operative and post-operative echocardiogram prior to discharge, all of which demonstrated good repairs. However, all three of the aortic valve patients had significant impairment of left ventricular function. On Monday and Tuesday, 17<sup>th</sup> and 18<sup>th</sup> September Dr John Wright held Cardiology clinics to assess and advise on a further 12 patients from other centres in Fiji.

### Summary of Procedures

| <b>Bypass procedures (10)</b>                          |   |
|--|---|
| Tetralogy of Fallot repair                             | 2 |
| Ventricular septal defects and tri-cuspid valve repair | 1 |
| Pulmonary stenosis                                     | 1 |
| Aortic arch repair and aortic valve replacement        | 1 |
| Secundum atrial septal defect                          | 1 |
| Adult patent ductus division                           | 1 |
| Rheumatic mitral valve repair                          | 1 |
| Rheumatic aortic valve replacement                     | 1 |
| Rheumatic Mitral repair & aortic valve replacement     | 1 |
| <b>Non-Bypass (4)</b>                                  |   |
| Patent ductus division or ligation                     | 4 |

### Patient Outcomes

Most patients were able to be discharged from hospital on the third to fifth post-operative day, and were followed up in Suva at 7-10 days with good wound healing and excellent cardiac echo findings.

Early recovery for most of the children was excellent, with the usual discharge being between three and five days post-operatively. However, one boy developed complete heart block after aortic valve replacement for rheumatic disease and required the arrangement for transport to NZ to have a back-up pacemaker inserted. He returned to Fiji two weeks later with good recovery with a reasonable spontaneous heart rate and the pacemaker set in a back-up mode.

Two other patients undergoing aortic valve replacement both had reduced left ventricular function which

persisted post-operatively and required careful medical management and a longer stay in hospital (7-8 days). Two patients had prolonged chest drainage requiring drains to be left in greater than two days, but both discharged successfully at 7-9 days.

At 28 days postoperatively, we learned that one patient died suddenly after becoming unwell on a bus trip to hospital for his follow-up appointment. This boy had had a double valve operation for rheumatic heart disease and had some residual left ventricular dysfunction. On the morning of his follow-up appointment he had woken up hot and we suspect sepsis and dehydration as a cause of death, given that he arrived at the hospital with a low blood pressure and normal rhythm and his post-mortem did not reveal any specific cardiac problem.

At six weeks post-mission we know 13 patients are alive and doing well after their check-ups by local paediatricians.

### **Teaching of local medical staff**

The Hearts4Kids medical team worked closely with local staff at CWM Hospital. There were local staff allocated to every shift in theatre, intensive care and ward, who looked after allocated patients with supervision.

Pen drives were created containing a list of important documents related to intensive care and these were provided to some of the local nurses and doctors.

Tutorials were held by senior nurses to teach local nurses on critical issues. Evening teaching sessions to educate parents of children on general healthcare issues were given in the wards.

Specifically, this time, three of the children received mechanical replacement valves which required an extra emphasis on parental education for their survival.

A debrief meeting was attended by Dr John Wright along with the CWM Hospital staff. In general, feedback was very positive, with staff members of the ICU, wards and theatre, saying that they had learnt from the cases and had enjoyed their interaction with the New Zealand team and felt respected by them. However, one concern raised by Dr Wright was the lack of allocation of a senior paediatrician to attend clinics and ward rounds with us. The local consultants explained that the timing of our visit in September after the two international team visits in April and June had caused difficulties for them, both in staffing our mission with senior paediatricians and in finding appropriate surgical patients. The number of paediatric clinics, particularly to the remote areas was limited this year due to a lack of senior paediatric clinicians. They recommended delaying our visit to November if possible, to spread the international teams over the twelve months and give them more time to prepare and to allocate a senior paediatrician. They do intend, in future, to be present at the assessment clinics and fully involved in the ward rounds and at the time of handover of care.

### **New Zealand High Commission**

New Zealand High Commissioner, Jonathan Curr, generously hosted the whole New Zealand team and assisting Fijian staff to a reception at his home. It was a pleasure to meet him and hear about his mission for the Fijian/New Zealand relationship. He strongly believed in developing ties with the Fijians at the individual level and was very supportive of our team and helpful in the urgent transfer of the boy requiring a pacemaker.

### **Media Coverage**

Our Media Volunteer, seconded from HeartKids NZ and radio NZ, spent her time gathering some of the stories of the children and families we treated, to be later published on our website. We appreciate her skill in communicating these stories back to our supporters in NZ and the wider community and soon after our return to New Zealand there was brief coverage of the mission on both Radio NZ and TV one. Unfortunately we did have one member of the public who complained about some of the photographs on Facebook and our website and suggested they were exploiting the children and may not be. We promptly reviewed the Facebook page and deleted some images, but many had been popular with others so not all were deleted. Our preoperative workup includes a verbal and written consent process for photography. Most of the photos showed happy children and relieved parents and we look forward to placing more of these on our website soon.

## **Acknowledgements**

Our grateful thanks to ALL individuals and organisations for supporting the 2018 Hearts4Kids Mission to Fiji.

We would particularly like to acknowledge:

- Air New Zealand
- Ara Masonic Lodge
- Corona Worldwide- Fiji Branch
- Friends of Fiji Heart Foundation
- Latter Day Saints Humanitarian Fund
- Medical Aid Abroad
- Ministry of Health, Fiji
- Open Heart International, Australia
- Printing – Andrew Light
- ROMAC (Rotary Oceania Medical Aid for Children)
- Rotary Clubs and the Howard Thomas Rotary Trust
- Staff at Colonial War Memorial Hospital, including Senior Paediatrician Dr Mary-Anne Korai
- Starship Children’s Hospital
- Sunila Lal and Dennis Lal
- Vatuwaqa Golf Club
  
- Medical companies and their representatives for continued support and sponsorships, in particular:
  - Abbott Laboratories
  - Amedus
  - Baxter Ltd
  - BD Medical
  - CDC Pharmaceuticals Ltd
  - Device Technologies
  - Downs Medical
  - Draeger
  - Edwards Life Sciences
  - GE Healthcare
  - Global Medics
  - Halyard Medical
  - Johnson & Johnson Medical
  - Life Healthcare
  - LivaNova
  - Macquet Medical Systems
  - Medipac
  - Medtronic
  - Obex Medical
  - Promed Technologies
  - Rem Systems
  - Scanlan
  - Spectrumed
  - Technisonic
  - Terumo Medical Device Company
  - USL Medical

**Thanks to all our sponsors, large and small, for such wonderful support**