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**Invention of modified anaesthetic, orthopaedic and clinical examination devices for elephants and other large animals under field conditions**

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The lack of properly designed equipment and instruments is an obstacle faced by Sri Lankan veterinary surgeons in the clinical examination and treatment of various injuries and clinical conditions in elephants and other large animals. This problem led to the invention of suitable alternative equipment and instruments to be used in large animal medicine and surgeries under field conditions.

The inventions included a modified anaesthetic machine for field use, modified grinder, large and small mouth gags, transparent speculum and modified horse hoof knife to clip or trim nails of elephants, slippers/sandals for elephants and constipated faecal bolus remover with the loop and 1 m long handle combined with a water/lubricant enema. These orthopaedic instruments would be useful in correcting accidental fractures in large animals especially in elephants. A modified open circuit anaesthetic machine (small version) with 1 L capacity breathing bag was used at a surgery on a baby elephant at the Udawalawe elephant transit home and was found to be convenient and effective during field use as it could be dismantled and carried to the field (e.g. forest). A modified grinder was used on an old emaciated female elephant at the Gangarama Temple, Hunupitiya effectively to cut grooves in worn-out molar teeth. Innovated large and small mouth gags were used with the invented transparent speculum on a crocodile to remove a foreign body stuck in the oesophagus and for examination of the oral cavity in elephants, which was found to be more effective compared to the conventional wooden 'bite block'. The transparent speculum was also used on an old female elephant to examine the rectal passage and treat for haemorrhoids. This could also be used for vaginal examination in large animals. Elephants are in severe pain and distress when they have deep wounds and pododermatitis in their feet. Devices similar to slippers/sandals are not presently available in Sri Lanka to be used during examination of similar conditions. The invented slippers/sandals improved wound healing of several elephants at the Udawalawe elephant transit home (one baby elephant) and at the National Zoological Gardens, Dehiwala (one adult elephant).

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