



### **MpoBi02-003**

**Development of a bioabsorbable double-pigtail urinary catheter for veterinary application adapted for different dimensional conditions assisted by Ashby's materials and processes selection methods.**

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This study aims to manufacture double-pigtail urinary catheters for veterinary use, with emphasis on obtaining a bioabsorbable or biodegradable material, aided by Ashby's material selection methods and processes. The main objective is to develop a material processing method that allows to manufacture the double-pigtail catheter adapted to varied dimensional conditions, depending on the size of each veterinary patient. Expecting results include the production of a urinary catheter with controlled dimensions, ensuring adaptation to the animal-patient's urinary tract, together with a controlled time of bioabsorption or biodegradation of the material by the animal's body, aiming to provide adequate time for healing according to the condition and need presented by the patient, without the need for a surgical procedure to remove the catheter. The relevance of this work is due to the replacement of catheters currently available on the market, which are neither bioabsorbable nor biodegradable, causing possible complications such as discomfort, blockages, formation of bacterial colonies and risk of infections if they are not removed after the animal-patient has recovered, which may require additional surgical interventions. Replacing current double-pigtail catheters with the use of bioabsorbable would mitigate these risks, providing a safer and more effective solution for veterinary patients.