Review Form 1.6

Journal Name:	**Journal of Pharmaceutical Research International**
Manuscript Number:	**Ms_JPRI_77492**
Title of the Manuscript:	**Biomaterials – Novel Advances in Nasal Medical Implants, 3D Printing Applications**
Type of the Article	**Mini Review Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(http://peerreviewcentral.com/page/manuscript-withdrawal-policy)

Review Form 1.6

PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**Dear Ladies and Gentlemen,** **the manuscript 'Biomaterials – Novel Advances in Nasal Medical Implants, 3D Printing Applications' describes the materials used for diagnostics or therapy in Otorhinolaryngology, either organic, anorganic, adsorbable or non-adsorbable, and current applications in 3D printing. The manuscript details a relevant and interesting** **topic in Otorhinolaryngology, but needs major content and language revision before publication. After revision I would be happy to review the manuscript again.** **1. Please reduce and combine manuscript capitals in cases with few text, e.g. 4.1-4.3, or even better extend the manuscript to a the topic completely discusing the review.** **2. Table 3 needs commentary for the of positive and negative material suitability for each material listed, e.g. absorbability, inflammation, wound healing.** **3. Please include for clarification into Table 3, that the studies regarding references 59 and 60 were temporal bone and sinus models.** **4. Please revise the Table and Figure legends and include all abbreviations used into them, although already mentioned in the main text.** **5. Please check references according to the Journal Style Guidelines, e.g. Langer et al., Allen TM et al., and include numerical order already in the manuscript. Check book citations according to the Journal Style Guidelines, e.g. Lamb S, Davis JR.**	
Minor REVISION comments	Language revision: a) Please change to '3D printed' in small letters throughout the manuscript. b) Introduction: Change to 'If a biomaterial is to define a non-viable...' c) Figure 2: explanation for the abbreviation WBC (white blood cells) d) Changes for the section Foreign body reaction: 'A fibrous capsule forms' and 'The same is represented in Figure 3.' e) Figure 3: Include explanation a-e into the legend. f) Changes for the section Biomaterials: '... the implant out, e.g. in case ...' and 'Table 1 summarizes the usage of biomaterials in various disciplines in the medical field.', as well as for the Table title. g) Table 1 needs homogenous enumeration style and following language corrections: 'pacemakers, assisting devices for the left ventricle', 'magnesium alloys' in small letters, 'PLA has a wide array of scope', 'osseointegration', 'Bone vacuum fillers show in a study by Cutright et al. a very good bone growth and reformation of bone marrow in rats 48 days after surgically implanting a bone replacement.', 'because of their high biocompatibility and high performance', 'autologous tissues', explanation for PMMA (poly (methyl methacrylat), magnetic without a full stop. h) Changes for the section Biomaterials in Otorhinolaryngology: ' In addition to teaching anatomy, training for surgery, using 3D printed prosthesis based on high resolution CT images, which gives highly accurate anatomical structures to overcome the otology related defects arising from defective ossicular chains, and 3D printed scaffolds for correcting the septal perforation, 3D printing finds an enormous amount of application in otorhinolaryngology.', '3D replicas of the patient body structures in a full scale facilitate...', 'and to decrease...', '...a 3D print for a splint in a lethal case of bronchomalacia was promising.''... of a damaged ear pinna due to a trauma or defects, e.g. postoperatively (49) and many other conditions such as anotia, in which the external ear pinna is completely absent.', 'Studies on ... are listed in Table 2.' i) Changes for Table 2: 'Bioresorbable airway splints for severe tracheobronchomalacia'	

	in small letters, explanation for the abbreviation TPU (thermoplastic polyurethane). j) Nasal drug eluting materials – a barely explored research area with infinite potential: check the position of the dash in the title, the whole section needs language revision: 'To increase the effectivity of the results in endoscopic sinus surgery (ESS), many absorbable and non-absorbable biomaterials have been introduced and studied in rhinology. These polymers are aimed to reduce postoperative inflammation as well as to increase the healing process. Some biomaterials like Hyaluronic acid, Chitosan, Fibrin glue and Collagen have been extensively studied for this purpose with no conclusive results of superiority in regards of (please include the study aims here, e.g. inflammation, wound healing, or others). The various applications of biomaterials in rhinology are represented in Table 3.', 'nasal septum perforation reconstruction'. k) Table 3: introduction of explanations for the abbreviations PVA, MPH, CMC. l) Table 4: title change to 'Biomaterials in Rhinology related studies.', combine the authors and references column and name authors by main author et al. m) The section Integration of electronics into 3D printed implants is unclear and a reference is missing. n) Changes in the section Tissue engineering: 'to build a very complicated microarchitecture, which is still in the phase of ongoing research and not clinical practice.', 'scaffolds in a swine model', include citation for the extrusion techniques. o) Conclusion: '3D printing in otorhinolaryngology is an attractive research area and clinical topic and will lead to further guidelines developments and regulations with ongoing research and usage.'	
Optional/General comments		

PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

Name:	**Raphael Richard Ciuman**
Department, University & Country	**St. Mary's Hospital Mülheim An Der Ruhr , Germany**