



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2014_BJAST_15679
Title of the Manuscript:	RESEARCH OF IMPLANTS COATING STRUCTURE AND DURABILITY
Type of the Article	Short Research Article

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
Review the next paragraph: However, this coating also wore considerably after 10 000 cycles. (Explain why supports 10,000 cycles rather than delete the information) Line 64 change zirconium by zirconium oxide or zirconia. (If you have a zirconium coating, justify why you are using?) Line 79 To include the conditions by sputtering for Co-Cr-Mo, Co+TiO₂, Zr and ZrO₂ coatings. Conditions request are pressure, target size, power, argon flow, distance between magnetron and substrate, etc. Line 102 Enhanced the figure No.1 OK Line 104 Figure 1 delete "Stand of the experiment: " Device and its parts Line 107 and 108 define clearly "stand" This is a specific fixture? OK Line 164 Delete table No.1 the information was included in the lines 155 to 161. OK Line 189 and above define clearly what means the word "wore". Line 203 TO include XRD pattern for corroborated the crystallinity and crystal size. No delete the paragraph, to include the results diffractograms and interpretation. Line 214 and 215 What is the value of highest abrasion resistance?. The manuscript has not changes; the authors deleted information instead of explaining or add the information requested.	10,000 cycles - it is not very many. Actually a person makes such amount of cycles a day. But this number has been used in the initial experiments. These tests also showed that some surfaces are not suitable for further research. Both zirconium (Zr) and zirconia (ZrO₂ zirconium dioxide) coatings are used. It is written in the article: Zirconium is distinguished for good biocompatibility and its modulus of elasticity is close to modulus of elasticity of human bones. Additionally: Zirconia is highly biocompatible, as are other ceramics, and can be made in the form of large implants such as the femoral head and acetabular cup in total hip joint replacement. Coatings were made with such parameters of the system: Ar⁺ ion flow 20 cm³/min; operating pressure 0.6 Pa; deposition time t = 60 min; current strength I = 0.8 A; voltage U =270 V. Distance between magnetron and substrate 270±2 mm. I have corrected: Figure 1. Device and its parts: 1– FP-10 tensioning equipment; 2 – special device; 3 – rod. "Wore" is coating abrasion degree, the change of the surface deterioration. I did not make XRD studies, so there are no results of diffractograms and interpretation. The coating which has changed little or hasn't changed at all after the friction test has highest abrasion resistance. I am thank sincerely all the Reviewers for perusal and analysis of our paper and we'll take your comments into account in our further research.