

## COMMENTARY TO HABILITATION THESIS<sup>1</sup>

The orofacial region is complicated not only from the perspective of embryonal development, but also later throughout the individual's life due to a large number of anatomical structures. Isolated primary or isolated clinical research can, in such a complicated region, bring only partial success and for complex progress in the field, joining forces of these two branches of research is of utmost importance. Here, we illustrate the significance of such linkage on three examples of research projects performed in cooperation of the Czech Academy of Sciences as an institution of primary research and the University Hospital Ostrava as a clinical department. The first part is devoted to odontogenesis and its possible influence on the formation of odontogenic tumours. The second one exhibits the possible usage of an animal biomodel for jaw joint research, and the last part focuses on retromarginal orbital fractures.

**[1]**STEMBIREK, Jan, Marcela BUCHTOVA, Tomas KRAL, Eva MATALOVA, Scott LOZANOFF a Ivan MISEK. Early morphogenesis of heterodont dentition in minipigs. *European Journal of Oral Sciences* [online]. 2010, 118(6), 547–558. ISSN 0909-8836.

Dostupné z: doi:[10.1111/j.1600-0722.2010.00772.x](https://doi.org/10.1111/j.1600-0722.2010.00772.x)

IF = 1,890; kvartil Q2

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
60	0	40	10

**[2]**BUCHTOVA, M., J. STEMBIREK, K. GLOCOVA, E. MATALOVA a A. S. TUCKER. Early Regression of the Dental Lamina Underlies the Development of Diphyodont Dentitions. *Journal of Dental Research* [online]. 2012, 91(5), 491–498. ISSN 0022-0345. Dostupné

z: doi:[10.1177/0022034512442896](https://doi.org/10.1177/0022034512442896)

IF = 3,826; kvartil Q1

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
40	0	40	10

<sup>1</sup> The commentary must correspond to standard expectations in the field and must include a brief characteristic of the investigated matter, objectives of the work, employed methodologies, obtained results and, in case of co-authored works, a passage characterising the applicant's contribution in terms of both quality and content.

**[3]** PUTNOVA, Iveta, Hana DOSEDELOVA, Vitezslav BRYJA, Marie LANDOVA, Marcela BUCHTOVA a Jan STEMBIREK. Angled Growth of the Dental Lamina Is Accompanied by Asymmetrical Expression of the WNT Pathway Receptor Frizzled 6. *Frontiers in Physiology* [online]. 2017, 8, 29. ISSN 1664-042X. Dostupné z: doi:[10.3389/fphys.2017.00029](https://doi.org/10.3389/fphys.2017.00029)  
IF = 3,394; kvartil Q1

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
0	10	30	30

**[4]** FILUSOVA, Jana, Iveta PUTNOVA, Pavel HURNIK, Zdenek DANEK, Ctirad MACHACEK, Jan STEMBIREK, Marcela BUCHTOVA a Barbora Moldovan PUTNOVA. Alteration of primary cilia morphology and associated signalling in ameloblastoma. *Archives of Oral Biology* [online]. 2022, 142, 105499. ISSN 0003-9969. Dostupné z: doi:[10.1016/j.archoralbio.2022.105499](https://doi.org/10.1016/j.archoralbio.2022.105499)  
IF = 2,64; kvartil Q3

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
0	0	20	30

**[5]** STEMBIREK, J., M. KYLLAR, I. PUTNOVA, L. STEHLIK a M. BUCHTOVA. The pig as an experimental model for clinical craniofacial research. *Laboratory Animals* [online]. 2012, 46(4), 269–279. ISSN 0023-6772. Dostupné z: doi:[10.1258/la.2012.012062](https://doi.org/10.1258/la.2012.012062)  
IF = 1,257; kvartil Q2

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
50	0	40	60

**[6]** STEMBIREK, J. *\*(corresponding author)\**, E. MATALOVA, M. BUCHTOVA, V. MACHON a I. MISEK. Investigation of an autologous blood treatment strategy for temporomandibular joint hypermobility in a pig model. *International Journal of Oral and Maxillofacial Surgery* [online]. 2013, 42(3), 369–375. ISSN 0901-5027. Dostupné z: doi:[10.1016/j.ijom.2012.07.001](https://doi.org/10.1016/j.ijom.2012.07.001)  
IF = 1,359; kvartil Q2

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
70	0	80	80

[7] KYLLAR, Michal, Barbora PUTNOVA, Vladimir JEKL, Ladislav STEHLIK, Marcela BUCHTOVA a Jan STEMBIREK. Diagnostic imaging modalities and surgical anatomy of the temporomandibular joint in rabbits. *Laboratory Animals* [online]. 2018, **52**(1), 38–50. ISSN 0023-6772. Dostupné z: doi:[10.1177/0023677217702178](https://doi.org/10.1177/0023677217702178)  
IF = 1,117; kvartil Q2

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
40	50	40	50

[8] PUTNOVA, Barbora, Pavel HURNIK, Vladimir JEKL, Dusan ZIAK, Vladimir MACHON, Misa SKORIC, Jiri STRANSKY a Jan STEMBIREK \*(*corresponding author*)\*. Effect of human adipose-derived regenerative cells on temporomandibular joint healing in immunodeficient rabbits. *Acta Veterinaria Brno* [online]. 2019, **88**(1), 49–56. ISSN 0001-7213. Dostupné z: doi:[10.2754/avb201988010049](https://doi.org/10.2754/avb201988010049)  
IF = 0,566; kvartil Q3

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
40	20	20	70

[9] KYLLAR, Michal, Jan STEMBIREK \*(*corresponding author*)\*, Zdenek DANEK, Radek HODAN, Jiri STRANSKY, Vladimir MACHON a Rene FOLTAN. A porcine model: surgical anatomy of the orbit for maxillofacial surgery. *Laboratory Animals* [online]. 2016, **50**(2), 125–136. ISSN 0023-6772. Dostupné z: doi:[10.1177/0023677215577923](https://doi.org/10.1177/0023677215577923)  
IF = 1,532; kvartil: Q1

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
40	0	50	70

[10] TIMKOVIC, Juraj, Jiri STRANSKY, Katerina JANUROVA, Petr HANDLOS a Jan STEMBIREK \*(*corresponding author*)\*. Role of orthoptics and scoring system for orbital floor blowout fracture: surgical or conservative treatment. *International Journal of Ophthalmology* [online]. 2021, **14**(12), 1928–1934. ISSN 2222-3959. Dostupné z: doi:[10.18240/ijo.2021.12.18](https://doi.org/10.18240/ijo.2021.12.18)  
IF = 1,645; kvartil Q4

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
50	0	40	50

**[11]** TIMKOVIC, Juraj, Jiri STRANSKY, Petr HANDLOS, Jaroslav JANOSEK, Hana TOMASKOVA a *Jan ŠTEMBÍREK \*(corresponding author)\**. Detecting Binocular Diplopia in Orbital Floor Blowout Fractures: Superiority of the Orthoptic Approach. *Medicina-Lithuania* [online]. 2021, **57**(9), 989. ISSN 1010-660X. Dostupné z: doi:[10.3390/medicina57090989](https://doi.org/10.3390/medicina57090989)  
IF = 2,948; kvartil: Q3

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
50	0	40	50

**[12]** Jiří STRÁNSKÝ, Jan ŠTEMBÍREK a Juraj TIMKOVIČ. Fraktury orbity. In: *Dětská oftalmologie: klinické a mezioborové souvislosti*. Praha: Grada, 2022, s. 425-428. ISBN 978-80-271-3052-8. Kapitola v knize.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
0	0	40	0