

UDC: 340.6:616.31-092

**IDENTIFYING AND SPECIFICITY  
COMPREHENSIVE ASSESSMENT  
MARKING SYSTEMS IN PROSTHETIC  
DENTISTRY**

*Shvets I.S., Kostenko S.B.*

*Department orthopedic stomatology,  
stomatological faculty, Uzhgorod Natsional  
University, Uzhgorod, Ukraine*

**Summary:** The paper presents the proposed clinical variety identification removable prostheses and clasp at special coded features that are designed to determine individual patient accessories (owner prosthesis) that allows critical information necessary to accommodate a removable orthopedic structures by introducing special code elements.

**Key words:** identification dentures, code elements, code signs, QR-system, barcode.

**Introduction.** Despite the rapid development in modern dentistry, currently a tendency to use removable prostheses and clasp dental prosthesis. But even this fact complicates the use and operation of removable orthopedic structures, especially about 20-30% of patients who indicated removable prosthetics, are unable to independently perform the necessary manipulations to care for their own dentures, because such patients are at retirement age and most need help. As a result, all manipulations for care of dentures, their

hygienic processing, cleaning, sterilization, etc., are duty auxiliary medical personnel in gerontology centers, homes for the elderly, medical clinics and other specialized hospitals. Because of the top issues which arise in the concept of sorting removable orthopedic structures, such as care for dentures, becomes massive [1-4].

Also, a special importance is the identification of dentures in wartime, because of the presence of proper denture can complete passport data compilation (identification) of its owner [5-7].

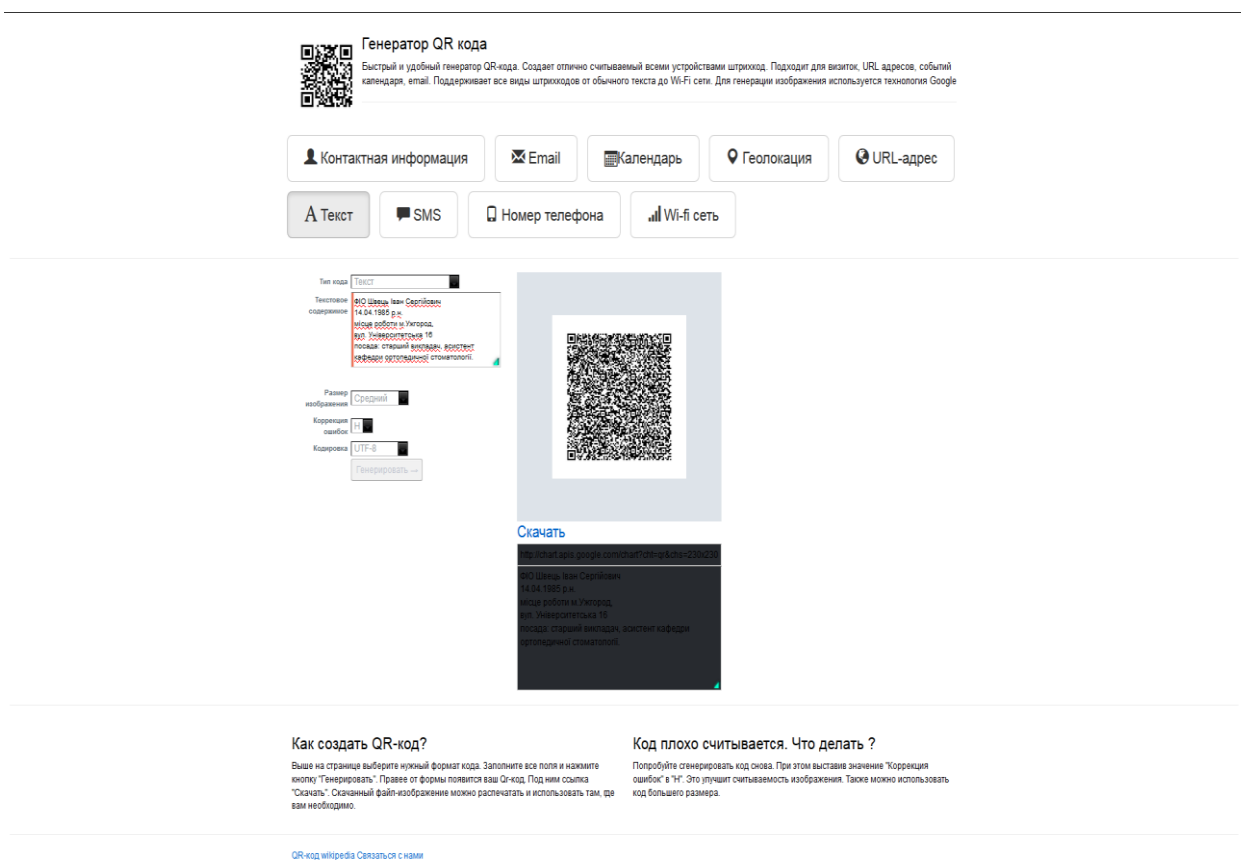
Also identification removable dentures can be used by law enforcement agencies during the process of identifiable individual, as well as investigative agencies, providing particular relevance to this article [8-10].

**Objective.** To develop reliable and easy algorithm identification (labeling) removable orthopedic constructions using QR-code system and a system for applying personal patient information at their surface.

**Material and Methods.** The study used 48 removable prostheses and clasp prostheses 15. All patients were divided roughly into three groups: 1) degree of atrophy of alveolar processes by Schroeder and Koehler; 2) atrophy of the oral mucosa for Suple; 3) fixation jaws in the position of central occlusion with saving or without saving height of bite classification Betelman. The total number of patients in the number 63 was moved in the ratio, which in turn was 100%. The degree of atrophy of the maxilla number of patients meet the following parameters: 1 class for Schroeder - 23.3%; Grade 2 by Schroeder - 47.5%; Grade 3 by Schroeder - 29.2% of patients. The degree of atrophy mandibular number of patients meet the following

parameters: 1 class - 18.1%; Grade 2 - 30.4%; Grade 3 - 28.6%; Grade 4 by Keller - 22.9% of patients. The degree of atrophy of the oral mucosa number of patients meet the following parameters: 1 class - 14.2%; Grade 2 - 35.8%; Grade 3 - 38.4%; Grade 4 by Suple - 11.6% of patients. The nature of the closing of dentition and jaws locking in position of central occlusion by Betelman: 1 class - 11.3%; Grade 2 - 20.5%; Grade 3 - 43.2%; Grade 4 - 25.0% of patients. On the surface of the base removable dentures was integrated special thermal transfer ribbon coated on its surface elements QR coding system (such as barcode). In this clasp dental prosthesis coding system was applied by means of laser engraving systems. Info brought in to removable orthopedic constructions was previously differentiated and systematized in Computer based on passport data.

**Research results.** Research conducted at the dental laboratory and orthopedic department of the University of Uzhgorod dental clinic for 10 months and continues at present. The survey was created systematic passport database of patients in number 63. Personal information about patients was converted to the format QR-coding system type barcode. For this purpose, the author used the Internet on-line Generator QR-codes (<http://www.qr-code.com.ua/>) which is placed freely on the territory of the internet and is absolutely free. After that all the information is stored and systematized in electronic form.



QR-code was moved to the thermal transfer ribbon by thermal transfer printing and brought to the surface removable prosthesis. The surface of the removable prosthesis need additional coverage transparent acrylic plastic and polished. Since the surface of the prosthesis previously milled in the area of application of thermal transfer ribbons approximately 1.5-2 mm.

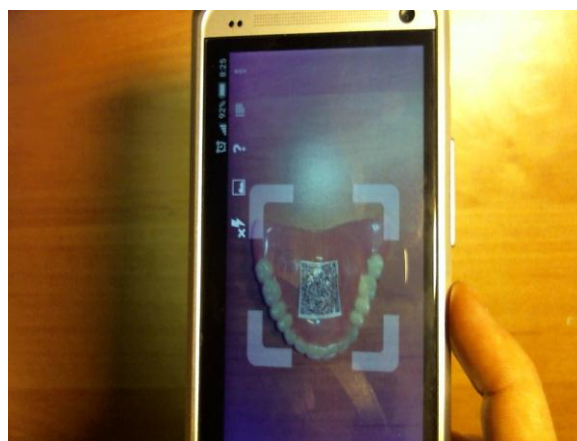


In the case of clasp dentures, the author of thermal transfer ribbons abandoned in favor of computer laser engraving. Since the area of prosthesis significantly less.

To read information from the surface of the denture base can use any scanner QR-codes. But there are also alternative ways of reading the data, using the electronic gadget beloved operating system Android or IOS. To do so, download to device application to

read QR-codes. There are many types of applications. The author was elected following: "QR Code Reader" is freely distributed on the Internet and is absolutely free.

After installing gadgets should bring to reading areas, and then coded information in decoded form appears on the screen of the device.



**Conclusion.**The proposed identification system makes it possible to integrate additional removable orthopedic structures systematic passport information of their owners, whereby received additional identification system.

## REFERENCES

1. Kostenko E.Y. "Comprehensive medical and identification of information on the status of odontology expert assessment of morphological and functional changes of the teeth-jaw system as a result of dental treatment and rehabilitation of victims." Abstract. Kyiv 2014.[8-20 pages].
2. Gasyuk PA, Kostenko E.Y., Scherba V.V., Glow V.J., "Prosthetic the complete loss of teeth." Tutorial. Ternopil, Uzhgorod. PRAT publishing "Zakarpattya" 2013.
3. Trezubov V.N., Shteynhard M.Z., Mishnyev L.M. Prosthetic dentistry: Application materialovedennya: a guide for medical schools / Ed. prof. VN Trezubova, 2nd edition, straighten. and add. SPB .: Spec. Years. 2001 - 351 pp., Fig.[317-331].
4. Naumovych SA "Prosthetic dentistry. Removable dentures and clasp dentures. " Minsk, 2009., 2nd edition.[8-41].
5. Kostenko E.Y. Clinical experiential explanation vessels medical classification stomatological status / Kostenko E.Y., Mishalov V.D., Slivka M.M, Goncharuk -Khomyn M.U.// News biological problems that medicine. - 2013. - Vip. 4, Volume 1 (104). [361-365].
6. Kostenko E.Y. epidemiological analysis of the availability and reliability of dental documentation / E.Y. Kostenko // Integrative anthropology. - 2013. - № 2 (22). – [P. 38-42.]
7. Kostenko E.Y. Scanning computer identification methods for digital ortopantomogramma Methodical Recommendations / E.Y. Kostenko, V.I. Bida, V.D. Mishalov. - K - 2012 – [17-18].
8. Kostenko E.Y. X-ray analysis algorithm Panoramic x-rays for the purpose of calculating complex constant anthropometric indices mandibular alveolar atrophy and evaluation of mandible / E.Y. Kostenko, M.U. Goncharuk-Khomyn morphology. - 2013. - № 2, T. 19. - P. [447-451.]
9. Kvaal S. I. Collection of post mortem data: DVI protocols and quality assurance / S. I. Kvaal // Forensic Sci. Int. – 2006. – May 15. – Vol. 159, Suppl. 1. – S. [12-14].
10. Pavlenko A.V. Dental system as a relationship between elements of mastication, aesthetics and phonetics. Literature review / AV Pavlenko, O. Ya Hohlich // Modern dentistry. - K., 2010. - № 5. - S. 88-90.