

## Vesticam IR video goggles.

### 1. Contact details:

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### 2. Vesticam infrared video goggles are entered in the ARTG as medical device #301218 (by the Therapeutic Goods Administration of Australia). See also Legal, Safety and Regulatory document, and **Vesticam TGA Certificate** (attached).

### 3. Warranty information.

There is a full 1 year replacement guarantee on manufactured parts, supplied android phone, camera, and software come, when used according to instructions.

Vesticam Pty Ltd will not be held responsible if any repairs are made on the system components without authorisation by our support team, or if the unit is not used in accordance with the supplied instructions.

Liability is limited to the replacement cost of the relevant components.

### 4. Vesticam support is provided through:

- [www.vesticam.com/support](http://www.vesticam.com/support) where you will find links to our manual, FAQs and a video showing set up
- [www.vesticam.com/contactus](http://www.vesticam.com/contactus) where you can email or call us directly
- units come with a hard copy of the quick start manual
- the quick start manual and full user manuals are also emailed and available on [www.vesticam.com](http://www.vesticam.com)
- ph: 1300 141 488

Our team will respond to requests for support within two working days. There is no cost for reasonable hardware or software support required during the warranty period.

Please follow your normal Electronic Medical Record (EMR) pathways for transferring patient videos. If your system does not currently support transfer of MP4 patient video files, you may need to contact your internal IT support team to comply with your policy.

### 5. Scheduled maintenance. Vesticam IR goggle units are not classified as “therapeutic tools” and do not provide a trace (measure) of eye movement so they **do not require regular calibration**.

Health systems will need to **follow normal service and maintenance pathways** for maintenance of the charging attachments and usb 240v wall socket charger supplied with your compatible recording device

### 6. Infection control/ cleaning details. Vesticam goggles are non-invasive and should not come into contact with patient eyes or broken skin. Normal patient hygiene pathways are used when applying the goggles. Effective anti-microbial wipes should be used to clean the Vesticam goggles face plate and head band before and after each patient. Autoclave will damage the unit and is not required.

### 7. Training in the use of Vesticam. Vesticam Infrared video goggles are easy for vestibular clinicians to set up and use.

- [www.vesticam.com/support](http://www.vesticam.com/support) has links to the full user manual, FAQs and a **video showing set up**
- units come with a hard copy of the quick start manual
- the quick start manual and full user manuals are also emailed and available on [www.vesticam.com](http://www.vesticam.com)
- Vesticam support is available for phone or skype sessions to assist with training if needed.

## 8. Justification for infrared video goggles in the diagnosis and management of vestibular conditions

### Background:

Vestibular clinicians need to observe and interpret small and fleeting eye movements during bedside oculomotor tests. Even with thorough training and the right conditions, making observations in real time can be difficult. Some diagnostic tests are best done with fixation (vision) removed, some tests require concurrent head movements, and sometimes components of nystagmus or saccades are fleeting.

Vesticam is an infra-red video eye-movement recording system.

Infra-red video goggles can provide a clear recording of eye movements, with or without fixation. The recording is visible in real time, even with the patient's eyes covered (fixation removed), can be stored, and then reviewed and/or shared with other health professionals, specialists, or the patient.

### Articles:

- Quimby et al (2018) Usage of the HINTS exam and neuroimaging in the assessment of peripheral vertigo in the emergency department: *Journal of otolaryngology - head & neck surgery*; 47(1)
- Kattah et al. (2009) HINTS to Diagnose Stroke in the Acute Vestibular Syndrome: Three-Step Bedside Oculomotor Examination More Sensitive Than Early MRI Diffusion-Weighted Imaging; *Stroke*; 40 pp 3504-3510.
- Tarnutzer et al. (2011) Does my dizzy patient have a stroke? A systematic review of bedside diagnosis in acute vestibular syndrome: *CMAJ*, 183(9)
- Jonathan A. Edlow, MD, Kiersten L. Gurley, MD, and David E. Newman-Toker, MD, PHD. "A new diagnostic approach to the adult patient with acute dizziness" *J Emerg Med*. 2018 Apr; 54(4): 469–483.  
*"Knowledge gaps regarding eye-movement findings also contribute to misdiagnosis (6). In a study of 1091 dizzy patients in U.S. EDs, physicians used templates to document the presence or absence of nystagmus in 887 (80%). Nystagmus was said to be present in 185 (21%) (43). Of these 185 patients, sufficient information regarding the nystagmus to be diagnostically useful was recorded in only 10 (5.4%)."*
- Baba S, Fukumoto A, Aoyagi M, Koizumi Y, Ikezono T, Yagi T. (2004). *Journal of Nippon Medical School*. 71 (1): 25-29.  
Full text: [https://www.jstage.jst.go.jp/article/jnms/71/1/71\\_1\\_25/\\_pdf/-char/en](https://www.jstage.jst.go.jp/article/jnms/71/1/71_1_25/_pdf/-char/en)  
**CONCLUSION:**  
*"From these observations and evidence, the IR-CCD camera can be recommended as a more useful system and powerful tool for neurotological examination than F glasses."*
- "The enhanced efficiency of nystagmus detection using the modified Frenzel goggles with congenerous illumination." *Vestn Otorinolaringol*. 2016;81(6):78-81.  
*"..... showed that the modified Frenzel goggles are more convenient for detecting spontaneous nystagmus in everyday practice."*
- Newman-Toker DE1, Saber Tehrani AS, Mantokoudis G, Pula JH, Guede CI, Kerber KA, Blitz A, Ying SH, Hsieh YH, Rothman RE, Hanley DF, Zee DS, Kattah JC. "Quantitative video-oculography to help diagnose stroke in acute vertigo and dizziness: toward an ECG for the eyes." *Stroke*. 2013 Apr;44(4):1158-61. doi: 10.1161/STROKEAHA.111.000033. Epub 2013 Mar 5.
- <https://dizziness-and-balance.com/practice/eyemove.html> Web. Accessed 3 March 2019.
- <https://www.dizziness-and-balance.com/practice/frenzels.htm>. Web. Accessed 3 March 2019.
- Ruckenstein MJ, Shepard N. (2000). Balance function testing: a rational approach. *Practical Issues in the Management of the Dizzy and Balance Disorder Patient*. 33 (3): 507-517.
- Peripheral-vestibular spontaneous nystagmus. Analysis of reproducibility and methodologies *Archives of oto-rhino-laryngology*, 1980, 226(4), 225-237 From Cochrane Library, accessed 4/3/19