Handheld OAE-Tympanometry Combination System

ERO•SCAN™ Pro

The ONLY handheld OAE-TYMP combination testing device in the world!

www.maico-diagnostics.com

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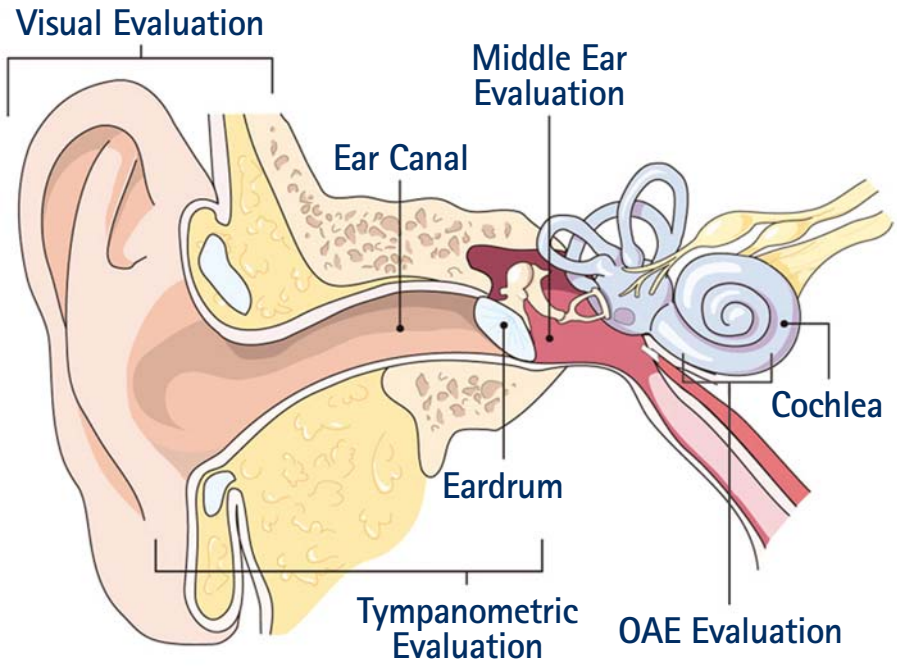
ERO•SCAN™ Pro



Ideal for...

Physicians

Audiologists

Birth-to-3 Programs

School & Head Start Programs

Otoacoustic Emissions (OAEs)

Otoacoustic emissions are sounds that are produced by the cochlea (outer hair cells) and can be measured in the ear canal. When sound passing through the ear canal reaches the cochlea, the vibration stimulates thousands of tiny hair cells. This creates a byproduct that can be detected and measured: otoacoustic emissions.

OAEs only occur in a normal cochlea with normal hearing sensitivity. If there is damage to the outer hair cells, which produces hearing loss, then OAEs will not be present. In general, OAEs will be present if hearing is at 30 dB or better.

The MAICO ERO•SCAN Pro

The EroScan Pro is a device that can fit any practice whether you perform hearing screening (protocol of 4 frequencies) or diagnostic testing (protocol up to 10 frequencies) using DPOAE, TEOAE, Tympanometry or all three.

Results are displayed as PASS or REFER

No need for interpretation. The equipment is automated and will provide easy-to-read and easy-to-interpret results. Trained staff can perform the test.

Test is completely objective

No response from the patient is necessary. Easily test uncooperative or non-English-speaking patients.

Accurate results

The patented EroScan Pro noise algorithm allows for reliable testing in up to 70 dB SPL of background noise – fewer false REFER results.

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DPOAE-TEOAE-TYMP

- OAE and Tympanometry are completed in as little as 20 seconds
- Intuitive interface for fast, easy operation
- Advanced diagnostic capabilities

Physicians

Otoacoustic emissions testing is an ideal tool for hearing screening because it can quickly identify a possible hearing loss and signal referral for more comprehensive testing.

Pediatricians

Hearing loss is not always identified by newborn screening. Pediatricians are the first professionals the parents approach with concerns about their child's hearing. Since hospital-based and private practice pediatricians screen infants and young children for hearing loss and middle ear disorders, incorporating OAEs into this routine testing can be greatly beneficial.

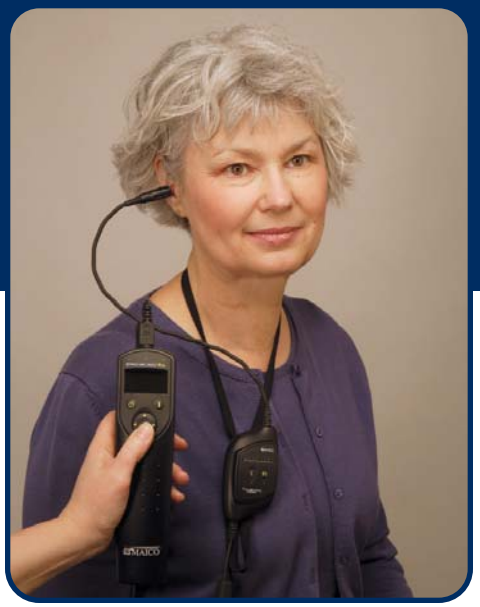
Head Start and School Screening

The Maico EroScan Pro is an effective tool for Head Start and school programs as a means to document hearing testing as well as screen large numbers of children very quickly. Since there is no need for a behavioral response from the patient, it is easy to test ESL and special needs children.

This procedure is also beneficial in assessing children that cannot be tested by conventional means. For example, pure tone audiometry requires a response from the child which may be an unrealistic expectation and time-consuming.

How Tympanometry Fits Into Your Practice

A tympanogram provides documented results of middle ear function that can assist with the visual otoscopic exam. An impedance measurement provides a method to diagnose and monitor disorders that could lead to permanent hearing loss, which is critical especially when working with children.



Uses of Tympanometry in the Clinic:

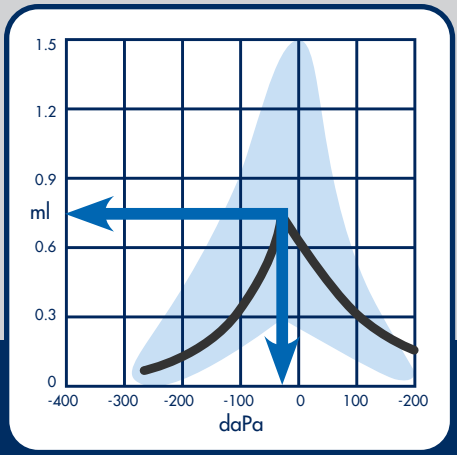
- Objective documentation of reduced eardrum movement (i.e., fluid or wax)
- Monitor chronic middle ear fluid
- Monitor PE tube function
- Confirm tympanic membrane perforation
- Monitor Eustachian tube function

As a non-invasive test, tympanometry can quickly and easily be performed on patients of any ages, from infants to adults. The objectivity of tympanometry means the results are accurate based on the calculations - they are not dependent upon a response from the patient.

Advantages of Tympanometry:

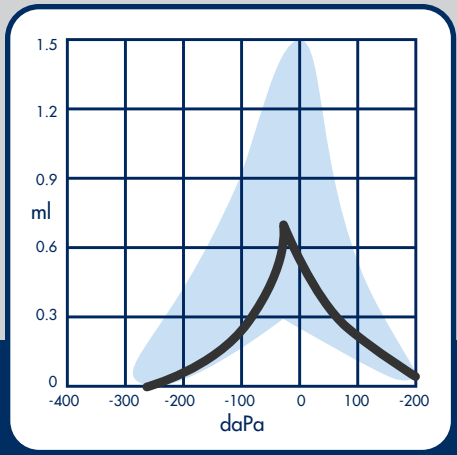
- Middle Ear evaluations
- Objective test method
- Test patients of any age
- Documented test results

- Print to thermal paper, PDF, or 8.5 x 11 PC printer
- Customizable settings and protocols
- Optional patient management database
- Sequenced protocols permit a full test battery



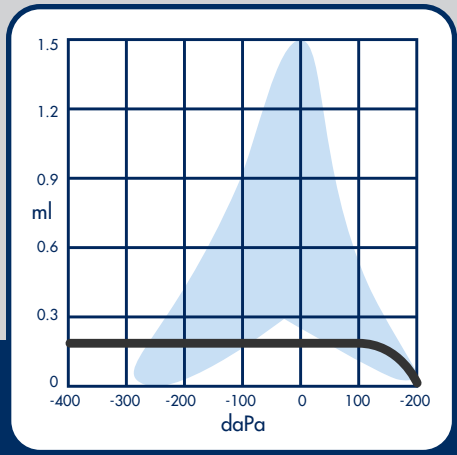
Tympanogram

is plotted with middle ear pressure, horizontally & compliance vertically



Pattern of the Curve

"Type A" curve of a normal tympanogram. This curve is shown as a thick dark line against the shaded area.



Type B Curve

"Type B" curve has no peak over a wide range. This indicates reduced ear drum movement, often seen with middle ear fluid or excessive wax.

Reimbursement

Otoacoustic emissions are reimbursable using the Current Procedural Terminology (CPT) codes. To date, health care reimbursement has varied in terms of cost per test but no problems have arisen if the appropriate codes are utilized. The most typical CPT code for OAE screening is:

92587:

Evoked otoacoustic emissions; limited (single stimulus level, either transient or distorted products). This is the most typical code and would be considered a "screening" code.

92588:

Comprehensive or diagnostic evaluation (comparison of transient and/or distortion product otoacoustic emissions at multiple levels and frequencies). This is for diagnostic OAE testing.

92567: Tympanometry

MODEL	PART#	SUGGESTED RETAIL
DP Screener	589A	
DP Screener/Tymp	589B	
TE Screener	589C	
TE Screener/Tymp	589D	
DP Standard	589E	
DP Standard/Tymp	589F	
TE Standard	589G	
TE Standard/Tymp	589H	
Combo	589J	
Combo/Tymp	589K	
Tymp Option	589-3	
Printer	589-10	
Patient Data Base Option	589-12	

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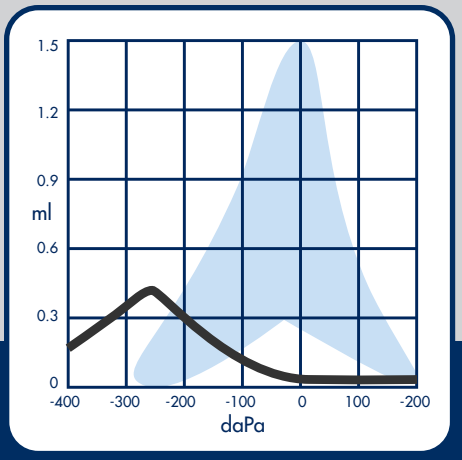

Type C Curve

"Type C" peak compliance is significantly below zero (usually less than -200), indicating negative pressure (sub-atmospheric) within the middle ear space.

Better Hearing
1234 Main St.
Chicago, IL 60641
312-725-8080

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Distortion-Product Otoacoustic Emission Test Report

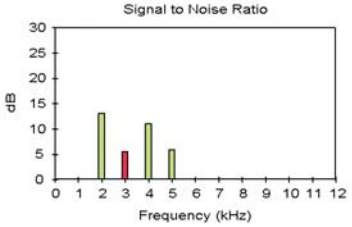
Right Ear: **PASS**

Patient Name: Jackson, Jane

protocol: **DP QuickScreen**

Test Number: 40 Test Date: 2008-08-14 04:16:34
Instrument and Probe Serials: 001007 ea02

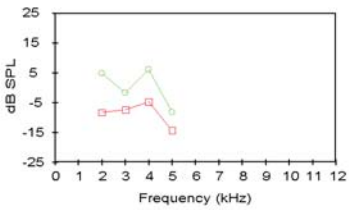
Signal to Noise Ratio



Number of frequencies: 4, minimum for a pass: 3
Minimum values in protocol ignored

F2	P1	P2	DP	NF	SNR	Result
2000	65	55	4.8	-8.3	13.1	P
3000	66	55	-1.9	-7.5	5.6	R
4000	64	55	6.3	-4.8	11.1	P
5000	65	55	-8.4	-14.4	6.0	P

DP Gram



Tympanometry Test Report

Right Ear: **PASS**

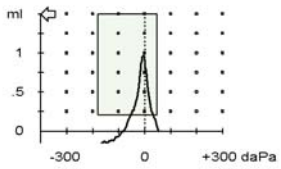
Patient Name: Jackson, Jane

protocol: **Tymp 226 Hz**

Test Number: 42 Test Date: 2008-08-14 04:17:27
Instrument and Probe Serials: 001007 ea02

Frequency: 226 Hz

Ear volume: 1.50 mL
Gradient: 43 daPa
Compliance: 0.98 mmho
Peak Pressure: -8 daPa



Full Page Color Report

State reporting

The optional database seamlessly integrates data into HiTRACK.

Portability

The EroScan Pro hand-held unit runs on batteries and allows you to move from room to room. The probe also makes it easy to maneuver around the head of your patient to attain a tight ear seal.

Managing Data and Print Results

Managing patient reports and tracking data is easy with the optional database. Selectable print options, are easily commanded by the push of one button located on the cradle;

- Compatible with EMR via PDF
- 8.5 x 11 full color PDF
- Full page to PC printer
- Customize report with office header information
- Thermal paper print

	ERO•SCAN Pro Screener	ERO•SCAN Pro Standard	ERO•SCAN Pro Clinical
Product Features			
Internal OAE Probe	Y	Y	Y
External OAE•Probe	Y	Y	Y
External **Tympanometry Probe Option**	Optional	Optional	Optional
DPOAE/TEOAE	DP or TE	DP or TE	DP and TE
System Features			
Sequenced Protocols	Y	Y	Y
Quick-print to PDF	Y	Y	Y
Quick-print to PC Printer (8.5x11)	Y	Y	Y
Completely Isolated Thermal Paper/Label Printer	Option	Option	Option
Completely portable	Y	Y	Y
Memory (# tests) Maximum	350	350	350
Save tests by patient #	Y	Y	Y
Prints graphical and numeric data	Y	Y	Y
Date & Time on printout	Y	Y	Y
Tests all ages	Y	Y	Y
Patient Management Database w/ support for uploading patient names to instrument	Option	Option	Option
OAE Features			
OAE Frequency Range (Hz)	2-5 DP 1.5-4 TE	1.5-12 DP 0.7-4 TE	1.5-12 DP 0.7-4 TE
Maximum # of Test Frequencies or Bands Reported	4 DP 6 TE	10 DP 10 TE	10 DP 10 TE
Default Pass/Refer	Y	Y	Y
# of OAE Test Protocols	2 Included	20 Included	20 DP, 20 TE Included
Completely Isolated Printer "optional" (does not require external line source)	Y	Y	Y
Customizable Pass Criteria	N	Y	Y
Customizable Test Protocols	N	Y	Y
Customizable by frequency/range: stimulus intensity, P1/P2 ratio, averaging time, SNR for pass, minimum OAE amplitude	N	Y	Y
Selectable Averaging Time	Y	Y	Y
Tympanometry Option			
Probe tone 226 Hz	Y	Y	Y
Probe tone 1000 Hz	Y	Y	Y
Default PASS/REFER indicator & box	Y (226 Hz)	Y	Y
Show/Hide PASS/REFER indicator & box	Y	Y	Y
Customizable Pass Criteria	N	Y	Y
# of Tymp Protocols	2 (226 Hz) 1 (1000 Hz)	10	10

ERO•SCAN™ Pro PARTS & ACCESSORIES

Printer Kit #589-10

ERO•SCAN™ Pro

Cradle #589-2

USB #1025-2088

Printer Paper #586-8
(adhesive or non-adhesive)

OAE External Probe
#589-1

Tymp/OAE External Probe
#589-3

Probe Tips #589-4
(internal)

Probe Tips #589-5
(external)

Eartip Kit #589-7

Carrying Case #589-11
(optional accessory)

MAICO

Conforms to IEC 601-1.

MAICO Product Line:

- Screening Audiometers
- Diagnostic Audiometers
- Middle Ear Analyzers
- OAE Test Systems
- PC Compatible Products

MAICO – Innovation, Continuity, Reliability.

This brochure contains only a small segment of the comprehensive product portfolio of MAICO. To find out more about other solutions, please contact us at:

Tel: 888-941-4201

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