origin medical

Origin Medical EXAM ASSISTANT™ (OMEA™) Cuts **Scan Time by 33%**, Improves **Completion Rate** and **Capacity**, while providing **Ergonomic Relief for Sonographers**

About Trial

A two-phase prospective clinical trial evaluating the use of OMEA™, an AI based software system for the automated obstetric ultrasound imaging for first-trimester NT exams (13 diagnostic views, head-to-toe). The task involved capturing 13 diagnostic views, assessing 77 quality criteria, and obtaining 2 measurements (NT and CRL). Conducted across two clinical sites in the US, the trial analyzed 228 examinations and 3,420 acquisitions performed by 8 experienced maternal-fetal medicine sonographers (4-22 years of routine OB imaging experience, currently practicing at OB or MFM offices). Phase 1 compared manual versus OMEA™assisted workflows to determine time savings and potential capacity gains on using AI; Phase 2 evaluated the benefits of using OMEA™ to boost capacity, revenue, and also assessed the feedback of the sonographers involved in the study.

Key Findings

01 **Performance and Workflow Impact:** Sonographers assisted by OMEA™ achieved 33.6% shorter median scan times (8.17 vs. 12.30 minutes) while simultaneously improving their exam completeness from 78.6% to 92.05%. Crucially, they also achieved >90% completeness across all BMI ranges (17-60) and scan durations (determined by fetal position, movement, body habitus), ensuring imaging consistency and speed regardless of workflow challenges. Notably, there was also a median reduction of 75% in keystrokes for each exam (150 to 38).

02 **Operational and Capacity Impact:** Standardized scan times of the OMEA™ assisted workflow eliminate scheduling unpredictability, enabling tighter appointment slots, fewer cascading delays, and optimized room/machine utilization. This consistency allows practices to schedule complex cases (e.g., high-BMI patients) with the same time-certainty as routine cases, while adding 1-3 additional exam slots (20-30 mins) per sonographer daily within existing shift hours.

03 **Economic Impact:** With additional daily capacity of a median of 2 scans per day per sonographer with OMEA™assisted workflows, practices can unlock around 500 additional exams per year per sonographer, resulting in additional revenue opportunity of $125k per full-time equivalent (FTE) sonographer, without additional spend on staffing, equipment, or facility costs.

Trial Overview

Study Design

Phase 1 (Performance & Workflow Study) - Manual and OMEA™ assisted workflows for each patient with randomized sequence assignment

Phase 2 (Capacity and Economic Impact Study) - Operator focused only on OMEA™ assisted workflow for each patient

Scanning Protocol (AIUM)
13 diagnostic views, 15 acquisitions per exam, 2 CRLs, 2 NTs, and one of each diagnostic view from head to toe (First trimester NT Scan)

Sample size
228 patients across 2 sites, 3,420 acquisitions

Team
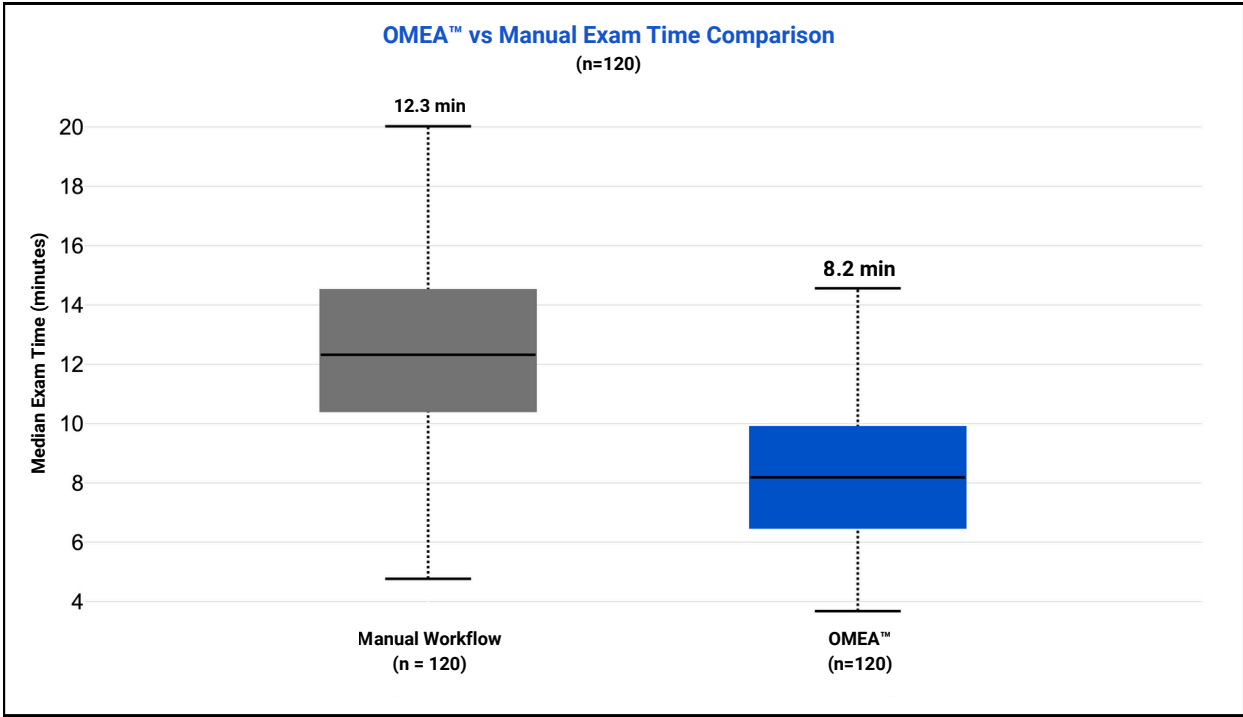8 MFM sonographers (4-22 years of experience)

BMI of Patients
Ranges between 17-60 (n= 228 patients)
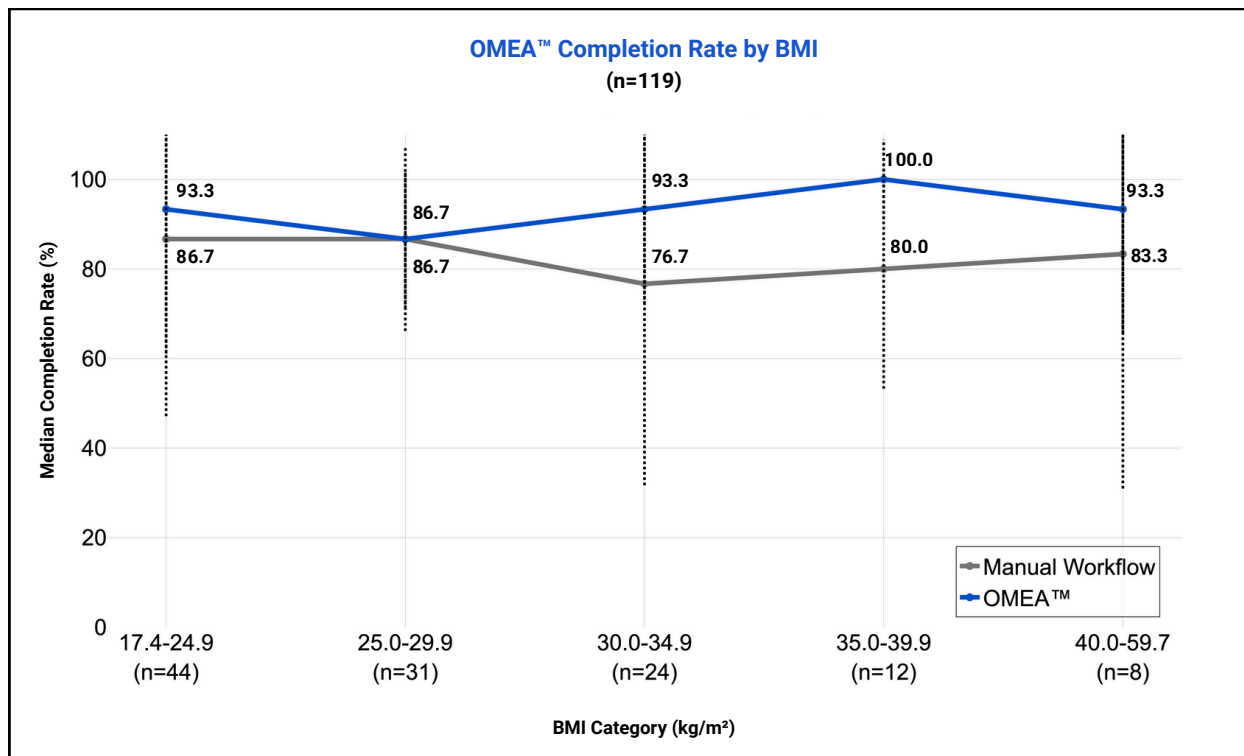
Key Findings: Performance and Workflow Study

OMEA™ assistance shortened exam times by 33.6% while maintaining an image quality acceptance rate of 92.05%, and with 75% lesser keystrokes for each exam (150 to 38).

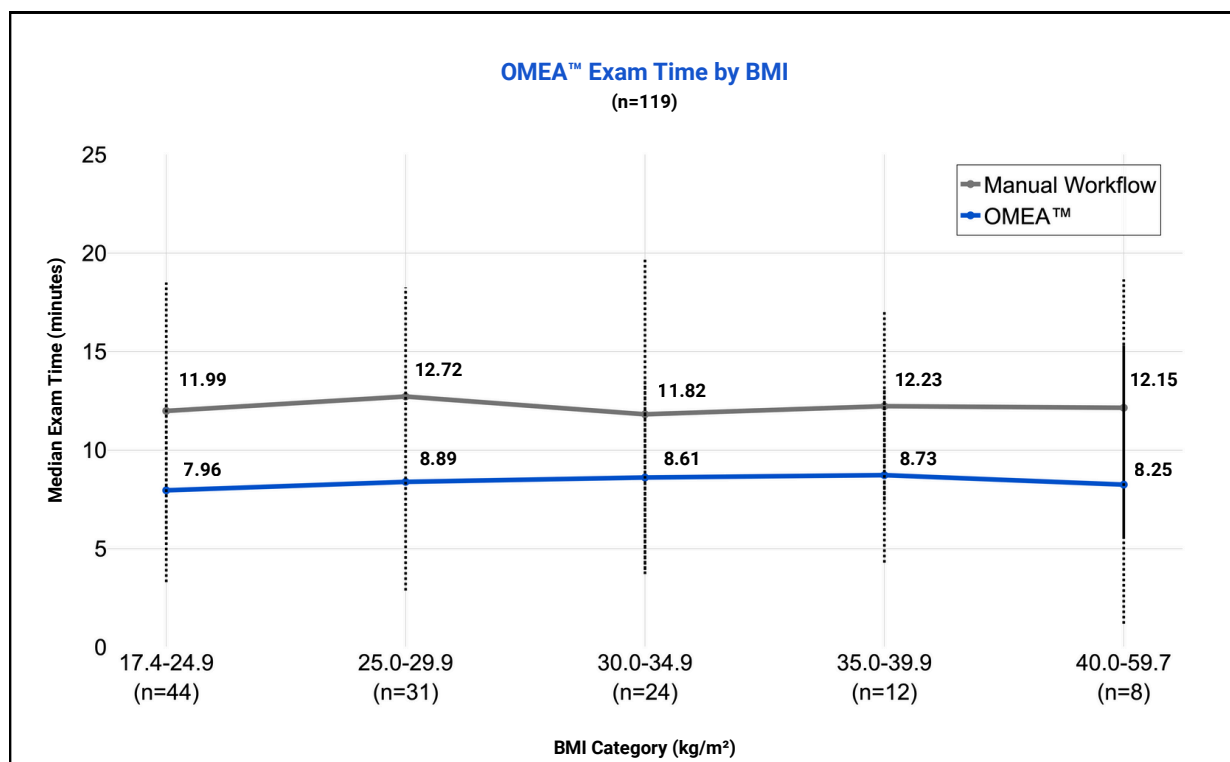## OMEA™ vs Manual Exam Time Comparison
(n=120)

Sonographers achieved consistently high completion rates while using OMEA™ within the timeframe, preventing complex exams from causing schedule overruns or requiring repeat visits due to incomplete exams.

OMEA™ Completion Rate vs Exam Duration
(n=120)
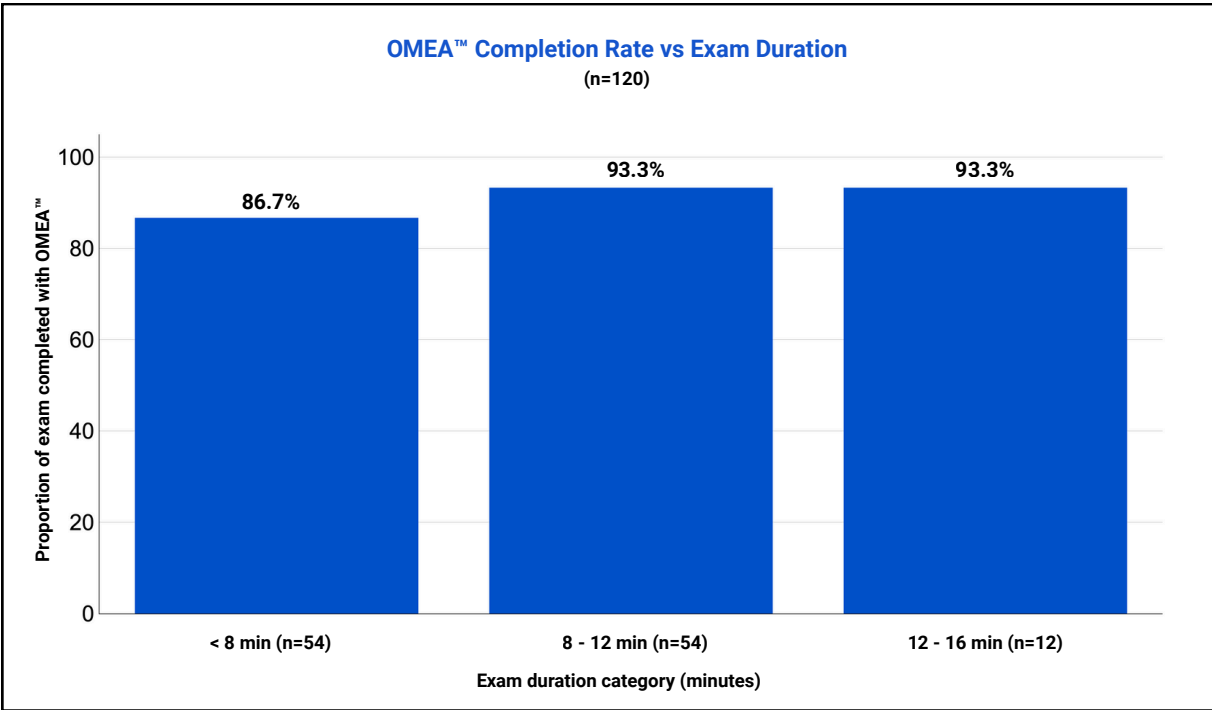
Sonographers consistently achieved >90% exam completion rates, regardless of BMI, while using OMEA™ assistance.

OMEA™ Completion Rate by BMI
(n=119)

Median Completion Rate (%)

BMI Category	OMEA™	Manual Workflow
17.4-24.9 (n=44)	93.3	86.7
25.0-29.9 (n=31)	86.7	86.7
30.0-34.9 (n=24)	93.3	76.7
35.0-39.9 (n=12)	100.0	80.0
40.0-59.7 (n=8)	93.3	83.3

BMI Category (kg/m²)

Sonographers using OMEA™ experienced shorter exam times than with manual workflows across the full BMI spectrum, supporting efficient, predictable workflows even in high-BMI exams.

OMEA™ Exam Time by BMI
(n=119)

Median Exam Time (minutes)

BMI Category	Manual Workflow	OMEA™
17.4-24.9 (n=44)	11.99	7.96
25.0-29.9 (n=31)	12.72	8.89
30.0-34.9 (n=24)	11.82	8.61
35.0-39.9 (n=12)	12.23	8.73
40.0-59.7 (n=8)	12.15	8.25

BMI Category (kg/m²)

Performance and Workflow Study (Phase 1) Outcomes

With a median time **savings of 35 to 45 minutes per sonographer per shift** with OMEA™assisted workflows, **1-2 additional exam slots (20-30 minutes each) can be added during the same shift**, increasing each sonographer's daily capacity by up to 25%.

For Phase 2 of the study, **each sonographer now performed 10 scans/shift (vs. 8 scans/shift in Phase 1), with OMEA™assistance, to assess the impact of the additional capacity.**

Key Findings: Capacity and Economic Impact Study

With a median of 2 additional scans/day/FTE sonographer, a site can perform 500 additional scans annually, unlocking up to $125K/year in additional revenue per FTE sonographer.

Capacity and Economic Impact Per FTE Sonographer

Number of scans with manual workflow	Number of scans with OMEA™ assisted workflow	Scan time gained per day	Additional slots/day	Additional scans/year*	Additional revenue/year**
8 exams/day	Conservative - 9	25 min to 35 mins	1	250	$62.5K
	Median - 10	35 mins to 45 mins	2	500	$125.5K
	Optimistic - 11	45 mins to 60 mins	3	750	$187.5K

* 250 working days, **Assuming revenue per scan is $250

Sonographer's Experience

Ergonomic & Productivity Gains

100% of sonographers reported significant time savings, and 75% reported ergonomic relief. Reducing physical strain and cognitive load allowed sonographers to feel less stressed and focus more on the patient experience during and after exams.

- **Reduced Repetition:** A 75% reduction in keystrokes **lowered repetitive clicking and typing.**

- **Less Physical Strain:** Automated image capture **reduced the need to twist, turn, or hold awkward positions to get the perfect image**, even in high-BMI patients.

- **Lower Cognitive Load:** OMEA™ **automatically tracks the protocol, removing the mental burden of maintaining a checklist** while scanning.

Sonographer's Feedback

> ...Saves clicks, measurements and annotations...
>
> ⭐⭐⭐⭐⭐
> **Sonographer 6**
> **(OB - 15 years)**

> ...It captured anatomy as I was scanning other anatomy that I wasn't necessarily going for at the time...
>
> ⭐⭐⭐⭐⭐
> **Sonographer 2**
> **(OB - 4 years)**

> ...Reduces need for typing or clicking and Time savings...
>
> ⭐⭐⭐⭐⭐
> **Sonographer 8**
> **(MFM - 12 years)**

> ...Capturing images without me needing to annotate or freeze...
>
> ⭐⭐⭐⭐⭐
> **Sonographer 4**
> **(OB - 10 years)**

> ...Capturing structures as I was looking at something else...
>
> ⭐⭐⭐⭐⭐
> **Sonographer 5**
> **(MFM - 10 years)**

> ...Saved time by capturing images quickly...
>
> ⭐⭐⭐⭐⭐
> **Sonographer 3**
> **(OB -22 years)**

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