

# SHOCKWAVE AZ 2025

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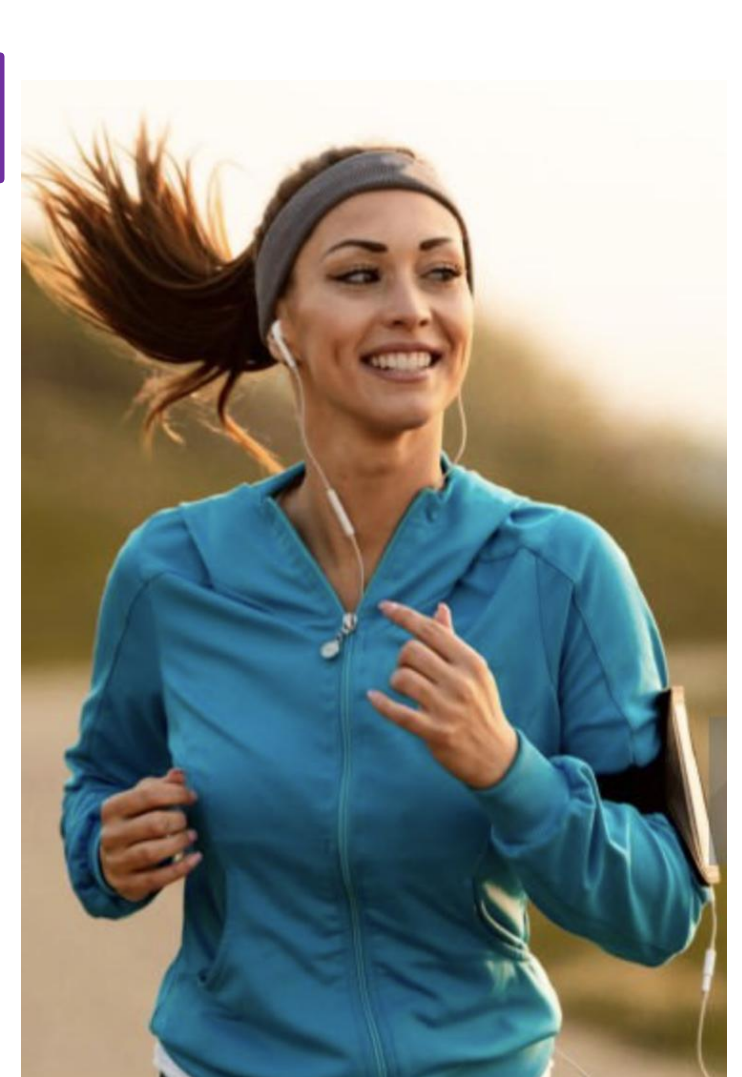
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# Case Study #1:

- Patient Complaint:
  - 38 yr old male recently stopped running due to discomfort and swelling in midfoot. Has a marathon in 5 weeks
  - Had changed to **carbon plated shoes**
- Diagnosis:
  - Stress fracture navicular
- Other recommendations:
  - Rest, below knee non-weightbearing cast
  - SPECT (Bone scan w CT) showed type “0.5” navicular stress fracture on Saxena scale: Saxena A, Behan SA, Valerio DL, Frosch DL. Navicular Stress Fracture Outcomes in Athletes: Analysis of 62 Injuries. *J Foot Ankle Surg.* 2017;56(5):943-948. doi:10.1053/j.jfas.2017.06.009



# Case Study #1 continued

## Treatment Plan:

- ESWT/EMTT (weekly x3, 2000 pulses @ 0.35mJ/mm<sup>2</sup>, EMTT 4 sessions 6000 pulses)
- BK Boot x 2 wks, cross-training on stationary bike & swimming

## Follow-up Treatment and Timing:

- Anti-gravity treadmill after 2 wks @ 70% body weight, 3 outside runs last 2 wks
- Follow-Up & Outcomes: Completes Marathon!

**AMÖL**  
**SAXENA**  
**DPM**  
BACK ON YOUR FEET FAST!



## Case Study #2:

- Patient Complaint:
  - Elite runner 32 yr old male, 2 Olympic Medals
  - Previous shockwave for “Haglund’s”, physiotherapy
- Diagnosis:
  - Haglund’s with Achilles tears
- Other recommendations:
  - Quit running, PRP, Boot



# Case Study #2 continued

Treatment Plan: Surgical repair Oct 2018

- ESWT (2 days post-op & 2wks post-op, 2,500 pulses @ 0.15 mJ/mm<sup>2</sup> over surgical site covered with a Tegaderm dressing)

Follow-up Treatment and Timing:

- EPAT (weekly as needed after 12 wks)

Follow-Up & Outcomes:

Won US Olympic Marathon Trials 2020

8<sup>th</sup> in 2021 Olympics

Ran 2:06 marathon Chicago 2021



Seifu Tura's 2:06:12 beat Galen Rupp by 23 seconds, with Eric Kiptanui another 26 seconds back. (KEVIN MORRIS/BANK OF AMERICA CHICAGO MARATHON)

# New study Achilles insertion repair (Haglund's)

- Using fESWT &/or RSW peri-operatively revealed patients had a faster RTA and better RM scores than those who underwent surgery alone in the setting of calcific and retrocalcaneal Achilles tendinopathy surgery
- **Matched pair analysis**
- Since the control group was statistically older, matched with intervention by sex, diagnosis, activity level & age (within 3 yrs)
- 12 patients in each group & those with ESWT still had a **statistically faster RTA by 1.4 mos**

## Case Study #3:

- Patient Complaint:
  - Elite runner 32 yr old male Olympic favorite
  - Previous “shin splints”, rest, physiotherapy
- Diagnosis:
  - Medial Tibial Stress Fracture
- Other recommendations:
  - Stop running, Boot, Olympic Final in 17 wks



## Case Study #3 continued

Treatment Plan: EPAT, leg brace, pool, anti-gravity treadmill with insert after 2 wks

- EPAT (every 2 days 2,000 pulses @ 0.15 mJ/mm<sup>2</sup>/2.4Bar 1<sup>st</sup> 2 wks)

Follow-up Treatment and Timing:

- EPAT (weekly as needed until 9 wks)

Follow-Up & Outcomes:

Won US Olympic Trials 2016 in record time 10 wks post-diagnosis

**Gold Medal in 2016 Olympics**



## Case Study #4:

- Patient Complaint:
  - 18 yr old male, twisted foot in soccer (football)
  - Concerned about being recruited in college
- Diagnosis:
- Jones fracture
- Other recommendations:  
Surgery vs no-surgery which has a 50% non-healing at 12 wks or re-fracture





# Metatarsal 5 fx in soccer athletes

Metatarsale 5 stress fx	N	Bony healing	Return to sport
Screw only	13	10,4 weeks	11,7 weeks
Screw + 3x fok. ESWT	5	7,8 weeks	8,0 weeks
Difference		2,6 weeks	3,7 weeks

18days 26days



**SPORTPRAXIS**  
PROF. DR. MED. K. KNOBLOCH

## Case Study #4 continued

### Treatment Plan:

- Pre & Post ORIF: ESWT/EMTT (2500 pulses 0.40 mJ/mm<sup>2</sup> & EMTT x2, Power 8, 6000 pulses)

### Follow-up Treatment and Timing:

- X-ray healed @ 4 wks

### Follow-Up & Outcomes:

- At 3 months out – playing soccer, now playing in college



# THE FUTURE IS HERE! TALAR OCDS, OSTEOTOMIES, FUSIONS & FRACTURES

Matched Pairs analysis using  
**EMTT/ESWT(n=10) vs controls(n=10):**  
15 Females, 5 Males, no diff in age,  
**P=0.49**

Sig diff in VAS score @ weightbearing  
**P=0.0001 (1.3/10 vs 3.1/10 )**

Sig diff in RTA (**13.2 vs 22.4 wks**)  
**P=.01**

Sig diff in healing @ 4 wks via X-ray  
**P=0.03**

**(Student's-T test, 95% Confidence  
Interval & Fisher's Exact P<0.05)**





2004: Munich



# Thank You Curamedix & Storz!



2019: Foxboro, MA