

# Power Doppler Musculoskeletal Abnormalities in Patients with Psoriasis at High Risk of Progression to Psoriatic Arthritis

Rebecca H. Haberman,<sup>1</sup> Sarah Moussavi,<sup>1</sup> Yan Zhang,<sup>1</sup> Sydney Catron,<sup>1</sup> Jonathan Samuels,<sup>1</sup> Rebecca B. Blank,<sup>1</sup> Michael Toprover,<sup>1</sup> Jiyuan Hu,<sup>1</sup> Cinty Gong,<sup>2</sup> Vincent Piguet,<sup>3</sup> Francisco Tausk,<sup>4</sup> Jensen Yeung,<sup>3</sup> Andrea L. Neimann,<sup>1</sup> Wayne P. Gulliver,<sup>5</sup> Joseph F. Merola,<sup>6</sup> Alexis Ogdie,<sup>7</sup> Proton Rahman,<sup>5</sup> Soumya D. Chakravarty,<sup>2,8</sup> Ralf G. Thiele,<sup>4</sup> Lihi Eder,<sup>3</sup> Christopher T. Ritchlin,<sup>4</sup> and Jose U. Scher<sup>1</sup>

<sup>1</sup>New York University Grossman School of Medicine, New York, USA; <sup>2</sup>Johnson & Johnson, Horsham, USA; <sup>3</sup>University of Toronto and Women's College Hospital, Toronto, Canada; <sup>4</sup>University of Rochester Medical Center, Rochester, USA; <sup>5</sup>Memorial University of Newfoundland, St. John's, Canada; <sup>6</sup>Harvard Medical School and Brigham and Women's Hospital, Boston, USA; <sup>7</sup>Perelman School of Medicine at the University of Pennsylvania, Philadelphia, USA; <sup>8</sup>Drexel University College of Medicine, Philadelphia, USA

## Background

Psoriatic arthritis (PsA) is an immune-mediated disease associated with joint inflammation and skin psoriasis (PsO) that, if untreated, can lead to joint destruction and disability

Up to 30% of PsO patients progress to PsA and, in most cases, PsO precedes synovio-enthesal inflammation. This provides a unique opportunity for early and potentially preventive intervention in a susceptible and readily identifiable population<sup>1</sup>

Guselkumab (GUS), a fully human IL-23p19-subunit inhibitor, is FDA-approved for the treatment of both moderate-severe plaque PsO<sup>2</sup> and active PsA<sup>3,4</sup>

The ongoing Preventing Arthritis in a Multicenter Psoriasis At Risk cohort (PAMPA) study (NCT05004727) aims to evaluate the efficacy of GUS in preventing PsA and reducing musculoskeletal ultrasound (US) abnormalities in a population of participants with PsO at increased risk for progression to PsA<sup>5</sup>

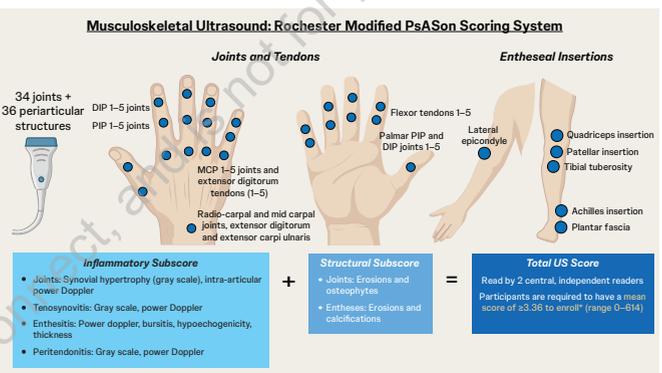
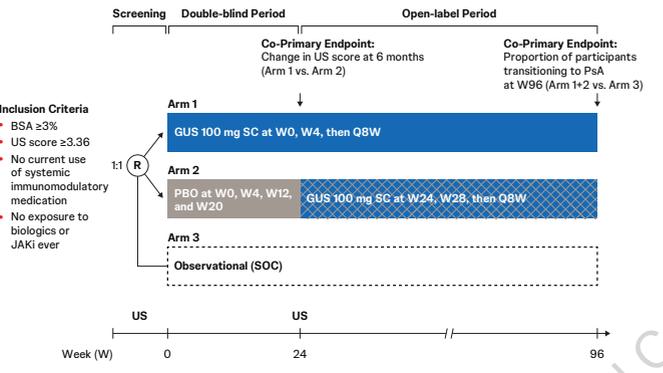
## Objective

This interim analysis of baseline data from the PAMPA study seeks to characterize participants with screening US evaluations to date and assess both US reader reliability and correlations with clinical characteristics

## Methods

### PAMPA Study Design

- Multicenter (currently 5 sites in USA/Canada) trial of biologic-naïve participants with PsO at high risk of progression to PsA
- Randomized, double-blind, placebo (PBO)-controlled, wait-list, interventional, preventive trial
- Participants opting for study intervention will be randomized to GUS Q8W or PBO through W24; those who do not want systemic therapy will be in the non-biologic standard-of-care (SOC) arm
- The PAMPA study is actively recruiting for a planned enrollment of 350 participants; this interim analysis includes 65 participants with completed US screening



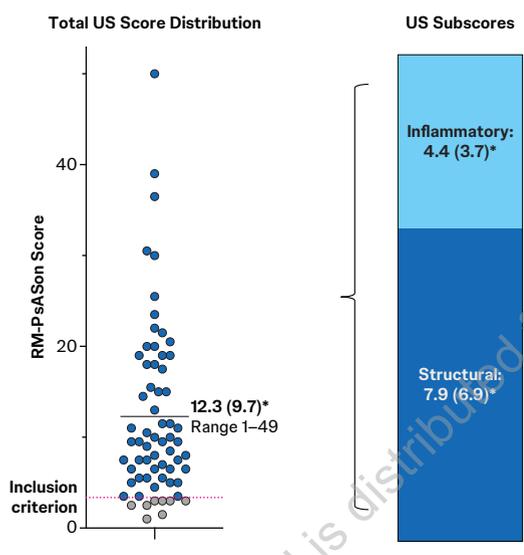
## Results

The majority white and male screened population was, on average, characterized by extensive plaque PsO and obesity

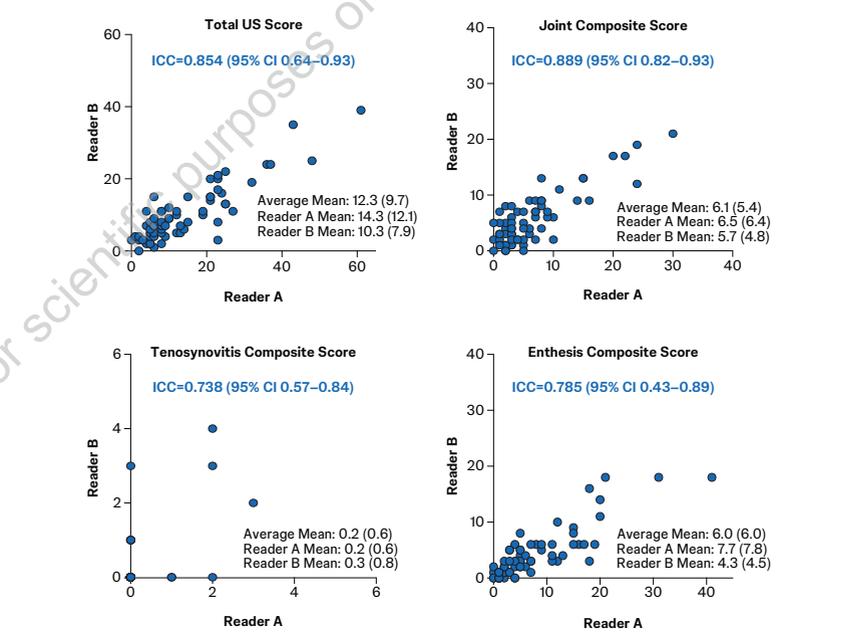
PAMPA Study	Screened participants (N=65)
<b>Baseline Demographics</b>	
Age, years, mean (SD)	49.6 (14.1)
Male, n (%)	35 (53.6)
<b>Race, n (%)</b>	
White	57 (87.7)
Asian	4 (6.2)
Other/Multi-racial	4 (6.2)
BMI [kg/m <sup>2</sup> ], mean (SD)	30.7 (7.9)
<b>Baseline Disease Characteristics</b>	
BSA [0-100%], mean (SD)	9.1 (10.6)
Plaque PsO, n (%)	55 (84.6)
Nail PsO, n (%)	31 (47.7)

Approximately 88% (57/65) of screened participants met the PAMPA US inclusion criterion

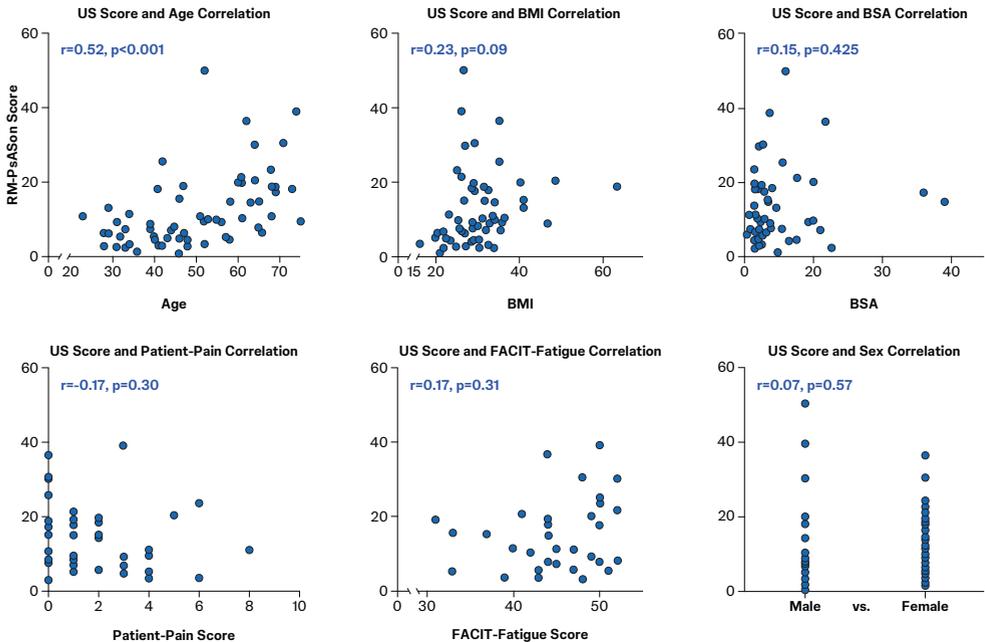
- The mean total US score of 12.3 comprised inflammatory and structural subscores of 4.4 and 7.9, respectively



Intraclass correlation coefficients (ICCs) assessing reader agreements exceeded 0.73, indicating excellent interrater reliability for total, joint-, and entheses-specific US assessments



US scores moderately correlated with increasing age, but not with other clinical characteristics evaluated



BMI=body mass index, BSA=body surface area, PsO=psoriasis, PAMPA=Preventing Arthritis in a Multicenter Psoriasis At Risk cohort, SD=standard deviation

ICC=intraclass correlation coefficient between Reader A and Reader B determined for the Total US score, comprising 4 domain composite scores: 1) Joint (right and left, upper and lower extremity); 2) Tenosynovitis (tendon sheath) and PD signal, bursae erosions, osteophytes; 3) Enthesis (graded according to Meppel Diagnostic Enthesis Index); 4) Peritendinitis of fingers (0 absent, 1 present). Note: Peritendinitis composite score not shown as all scores were 0. CI=confidence interval, ICC=intraclass correlation coefficient, PD=pharmacodynamics, US=ultrasound

Correlations (Pearson's correlation coefficient for continuous measures) or point biserial correlation (sex) between baseline US and age, BMI, % of BSA with PsO, patient-reported pain (0=no pain, 10=worst pain imaginable), FACIT-Fatigue score (0-52, lower score=more severe fatigue), and sex. BMI=body mass index, BSA=body surface area, FACIT-Fatigue=Functional Assessment of Chronic Illness Therapy-Fatigue, PsO=psoriasis, RM-PsASon-Rochester Modified PsASon, US=ultrasound