

# LIPDEMA: AFFECTS ANY AREA OF SAT?

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## BACKGROUND

Lipedema is widely defined as a limb-restricted disorder – but this definition is incomplete.

Emerging evidence and clinical experience strongly indicate that lipedema can extend beyond the extremities, with painful, inflammatory fat involvement in truncal regions such as the abdomen, back, and gluteal area.

Yet current diagnostic models barely acknowledge this pattern. As a result, patients presenting with trunk-dominant symptoms are frequently misclassified – often as obesity, lipohypertrophy, or unspecific fat distribution.

This poster challenges the narrow limb-focused perception of lipedema and demonstrates that truncal SAT involvement is not incidental – it is clinically significant, symptomatic, and treatable when recognized through modern diagnostic tools such as the Munich Lipedema Score (MLS).

FIG. 1: EXAMPLE OF PATIENT WITH ABDOMINAL LIPEDEMA



It is time to move beyond limbs.

## METHODS

A retrospective analysis was conducted on 100 female patients treated at a specialized lipedema center between.

All patients had confirmed limb-dominant lipedema (BMI < 40) and additionally reported painful or tension-related symptoms in at least one truncal SAT region (e.g., abdomen, back, flanks, or gluteal areas).

Each patient underwent a standardized diagnostic protocol, including:

- structured medical history (pain, progression, family history)
- physical examination and photographic documentation
- high-resolution ultrasound of affected regions
- validated symptom questionnaires
- high-resolution 3D anthropometric surface scan, enabling fully automated circumference and volumetric measurements as well as the generation of an objective 3D surface model of each patient. This allowed for quantitative visualization of truncal fat distribution beyond conventional physical examination.
- assessment using the Munich Lipedema Score (MLS) – a diagnostic tool integrating morphology, pain, and clinical history to stage disease severity across both extremities and truncal areas

### MUNICH LIPEDEMA SCORE (MLS)

MEDICAL HISTORY	SCORE
Onset of hormonal changes (puberty, pregnancy, menopause)	2 points
Limb circumference and shape cannot be influenced by weight loss and/or exercise	4 points
AFFECTED AREAS	SCORE
Pain with pressure or strain	3 points
Pressure and touch sensitivity	2 points
Bruises, cold feeling	2 points
A feeling of heaviness, an increase in volume during the day or in the heat	2 points
Pain while resting	4 points
Pain on palpation during examination	4 points
MORPHOLOGY	SCORE
Disproportionate increase in limb circumference with discrepancy between upper and lower body (different clothing sizes)	4 points
Column shape of the legs with a spread aist	3 points
Skin irregularities on the thighs and/or coarse, nodular fat structure	2 points
Subcutaneous thickness (including cutis) 6-8 cm above the medial malleolus (according to Marshall)	
12 – 15 mm	2 points
15 – 20 mm	3 points
> 20mm	4 points
Associated stat. Deformities / orthopaedic sequelae (e.g. genu valgum)	4 points

## KEY FINDINGS

### Prevalence & Symptom Pattern

- 100% of patients reported pain, tension, and/or pressure sensitivity in at least one truncal SAT region
- Most frequently involved areas: lower abdomen, submammary region, upper back, and gluteal zone
- Easy bruising was present in >90% of cases

### Physical Examination

- The abdomen showed centrally accentuated fat accumulation along the midline, including distinct submammary fat pads
- The cervical region (posterior neck) presented with isolated localized fat pads that were clearly pressure-sensitive
- The dorsal trunk appeared morphologically unremarkable on inspection, with no overt deformity despite reported symptoms

### Disease Severity (Munich Lipedema Score)

- MLS range: 21–39 in nearly all patients (mean: 32.1) -> consistent with manifest or advanced lipedema
- 3 cases with MLS 11-15 confirmed that truncal involvement may already occur in early-stage disease
- The dorsal trunk appeared morphologically unremarkable on inspection, with no overt deformity despite reported symptoms

### Inheritance Signal

- 65% reported a positive family history of lipedema

### Imaging Correlation (Ultrasound + 3D Scan)

- Ultrasound of truncal SAT showed altered echotexture and increased tissue density, comparable to limb-involved regions
- 3D anthropometric surface scanning objectively demonstrated disproportionate volume distribution and measurable truncal fat concentration

## CONCLUSION

Lipedema must be recognized as a systemic disorder of subcutaneous adipose tissue – not merely a limb-confined condition. Expanding diagnostic attention to truncal regions may enable earlier recognition, more accurate staging, and timelier access to effective treatment.

TABLE 1 PATIENT CHARACTERISTICS (N=100)

BMI	29,1
WAIST-HIP-RATIO	0,75
AGE	36,7
FAMILY HISTORY	0,65
MLS	32,1
STAGE OF LIPEDEMA	I: 15 II: 80 III: 5