



Bears in Animation

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Introduction

- Large, heavy mammals
- Combine strength + agility
- Plantigrade stance (walk on full foot)
- Movement feels:
 - Grounded
 - Heavy
 - Rhythmical



Why Bears for Animation

- Clear weight & balance
- Strong, readable silhouette
- Combination of:
 - Power
 - Softness



Skeletal Structure

- Front-heavy (~60%)
- Shoulder hump:
 - Large muscle mass
 - Drives front limbs
- Spine:
 - Flexible but appears compressed



Shoulder Mechanics

Scapula is not fixed

Slides over ribcage

Enables long forward reach

Animation takeaway:

- Movement starts from shoulders
- Front legs feel heavier & dominant



Paw Anatomy

Plantigrade stance:

- Heel + palm + toes

5 toes + long claws

Thick pads for support



Foot Contact & Motion

Step sequence:

- Heel → roll → toes

Creates heavy foot roll

Front vs Back:

- Front → absorbs weight
- Back → stabilises

Animation takeaway:

- Add foot roll + slight drag
- Avoid light / sharp steps



Locomotion (Pacing Gait)

Same-side legs move together:

- Left front + left back
- Right front + right back

Creates:

- Side-to-side sway
- Rolling torso motion



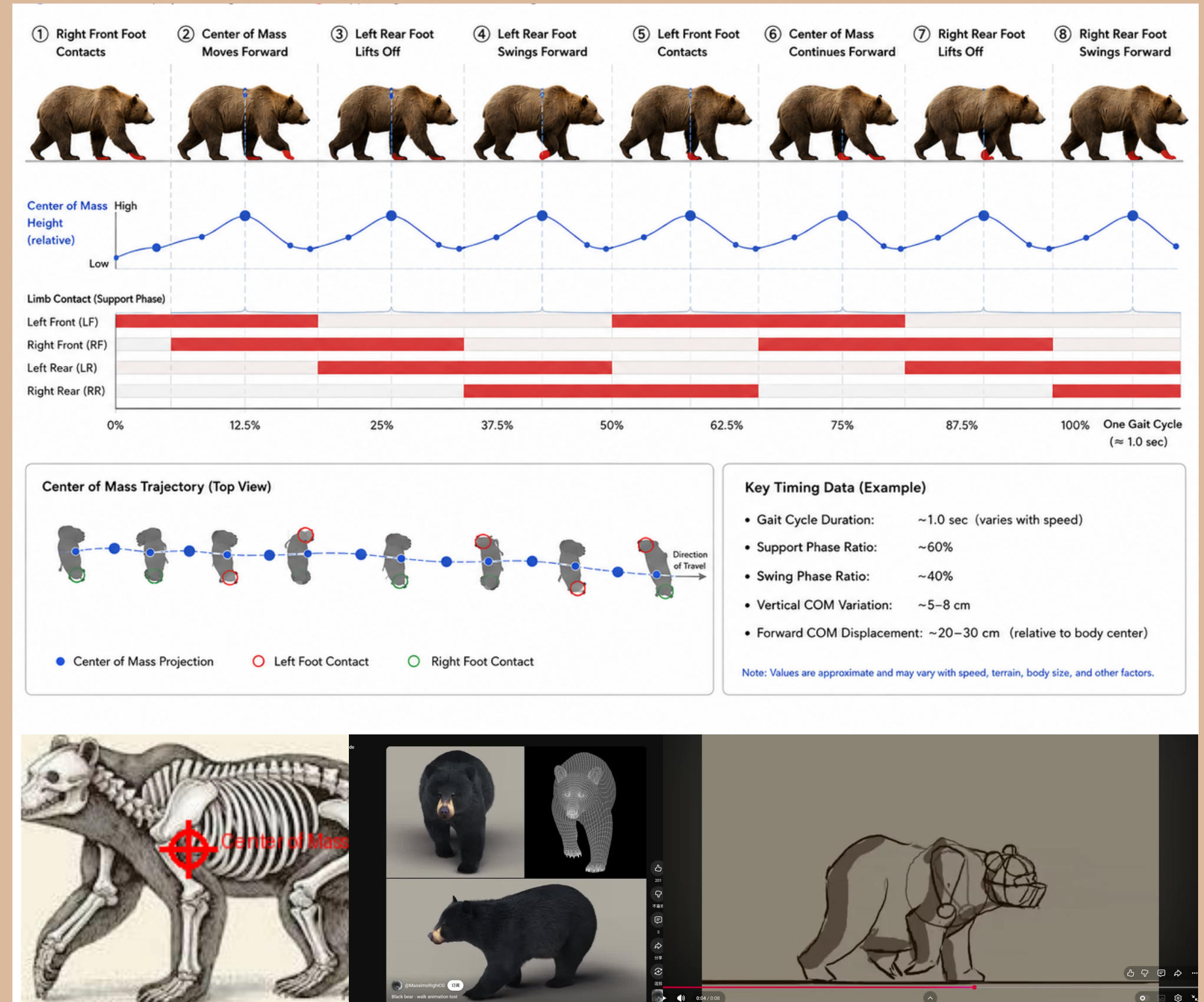
Weight Shift

Clear weight transfer
Body slightly “falls” into steps

The bear’s overall body weight sits naturally low and forward.

It shifts its weight between one front leg and the opposite back leg, making a stable triangle support.

It walks slightly turned inward with its feet, keeping its weight close to the center of its body and reducing side-to-side wobble.



Movement & Behaviour



Slow

Relaxed, swinging mass



Sudden energy bursts

Head vs Body:
Usually stable head
Body moves underneath



Secondary motion

- Fat & muscle:jiggle/Overlap

Application to Animation

Prioritize weight over speed.

Motion Principle

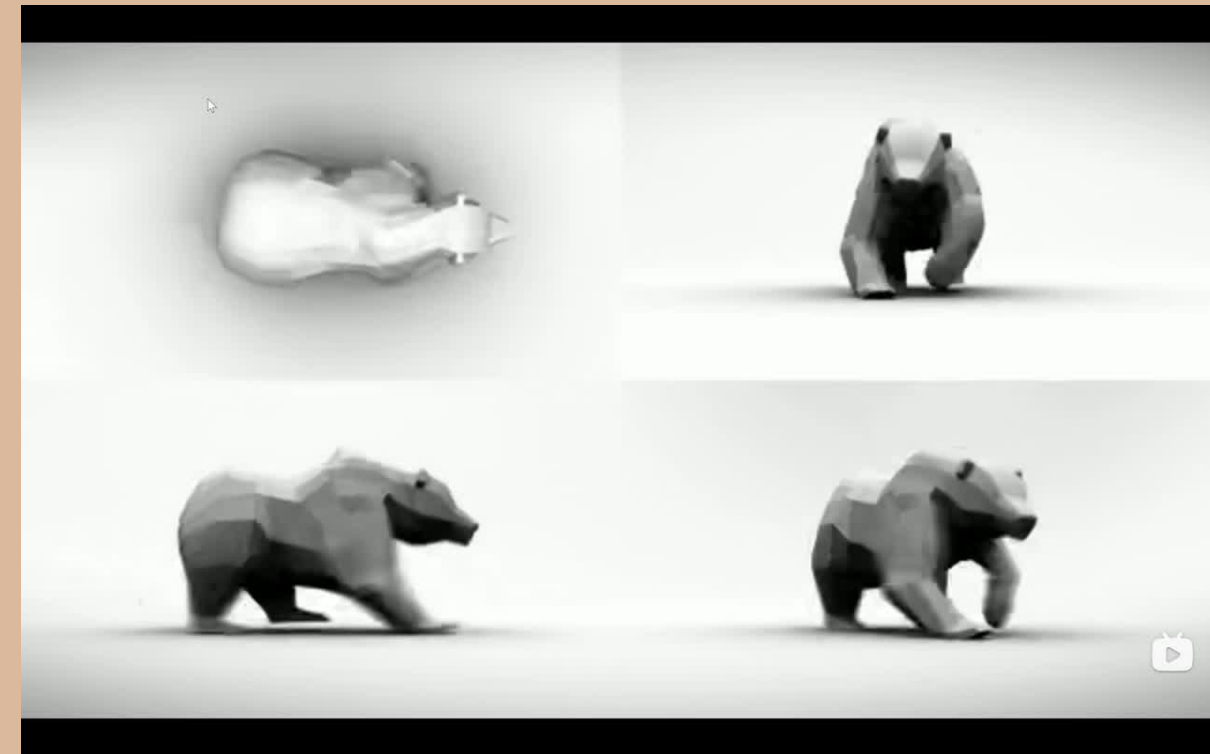
Let the shoulders drive the motion—body leads, limbs follow.

Key Techniques

Use overlap and follow-through to keep the motion natural.

Body Dynamics

Focus on compression and expansion, with subtle vertical movement and shoulder rise and fall.



Common Mistakes

- Movement feels too light
- Lack of torso sway
- Too symmetrical
- Motion feels too sharp

Conclusion

Bears demonstrate:

- A strong sense of mass and weight
- Clear and readable weight transfer
- An organic, natural rhythm

They help animators better understand:

- Weight and gravity
- How anatomy drives motion
- How to create believable creature animation