

Figure S1. Sketch drawing of a deer stone and associated horse burials (lower left), and a birds-eye planview of a *khirigsuur* burial mound surrounded by horse burials (upper right). Drawing by Barbara Morrison.



Figure S2. A (top): Contemporary Mongolian herder engaged in horseback riding, using left-handed rein position causing asymmetric pressures to the horse's skull. Photo by Orsoo Bayarsaikhan. B(center) contemporary Mongolian horse skulls, showing asymmetric and skewed thinning to the nasal bones caused by bridle pressure. C(bottom) Asymmetric deformation to the cranial bones of a Deer Stone-Khirigsuur horse (left), alongside an early Middle Ages horse with a similar feature (right). Modified from Taylor and Tuvshinjargal (2018).



Figure S3. Damaged anterior margin of the lower second premolar on a contemporary Mongolian horse, caused by interaction with the bit during riding (Anthony and Brown 2003; Bendrey 2007).

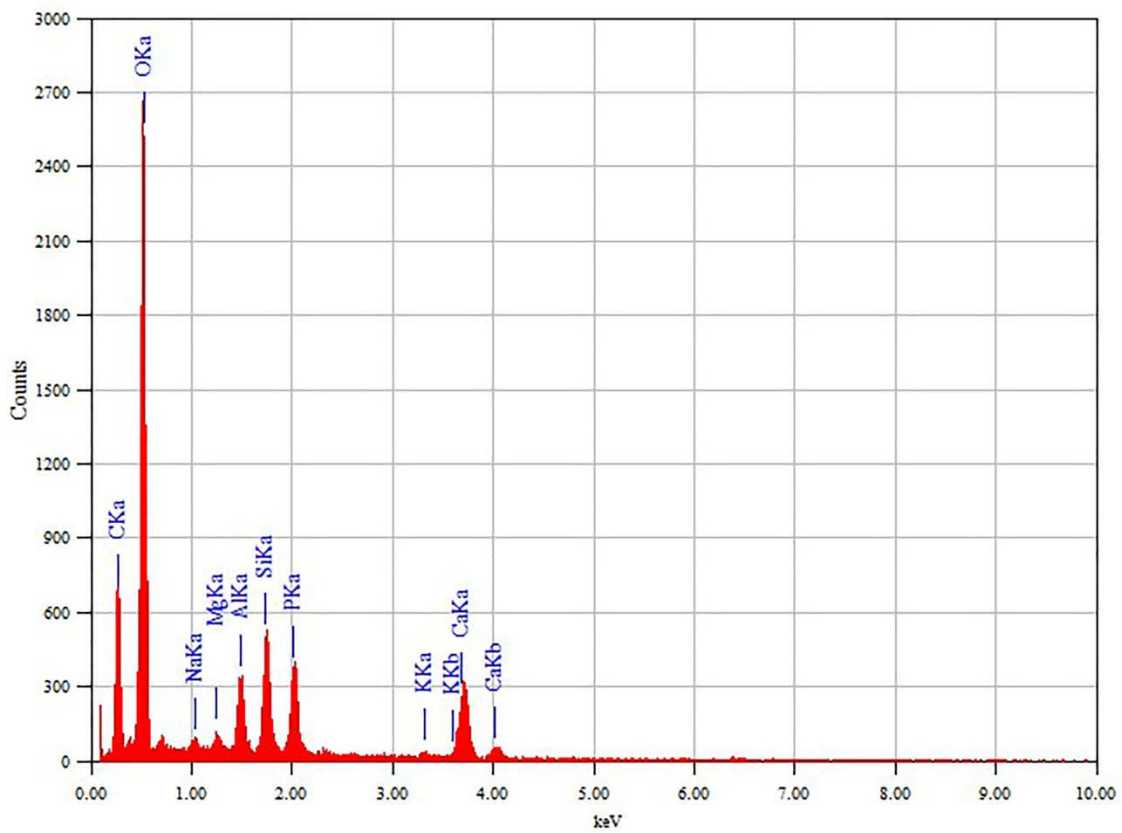
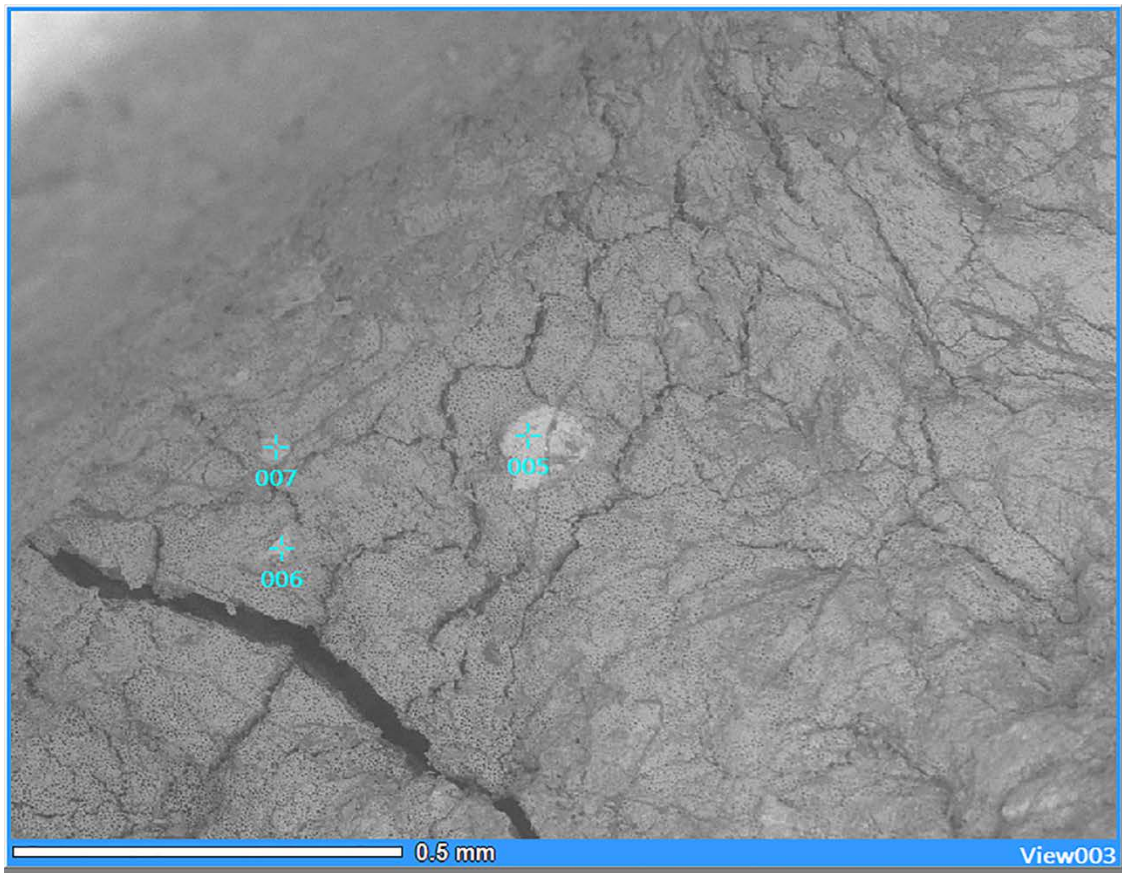


Figure S4. A (Top) SEM photomicrograph showing modified I1 margin from Uguumur. B (center) Example of particles targeted for EDS analysis on the interior cut surface of a modified tooth from Uguumur. C (bottom) Spectra from one of the particles analyzed, showing energy level (kiloelectron volts) versus counts received and processed by the detector, labeled with associated elements.

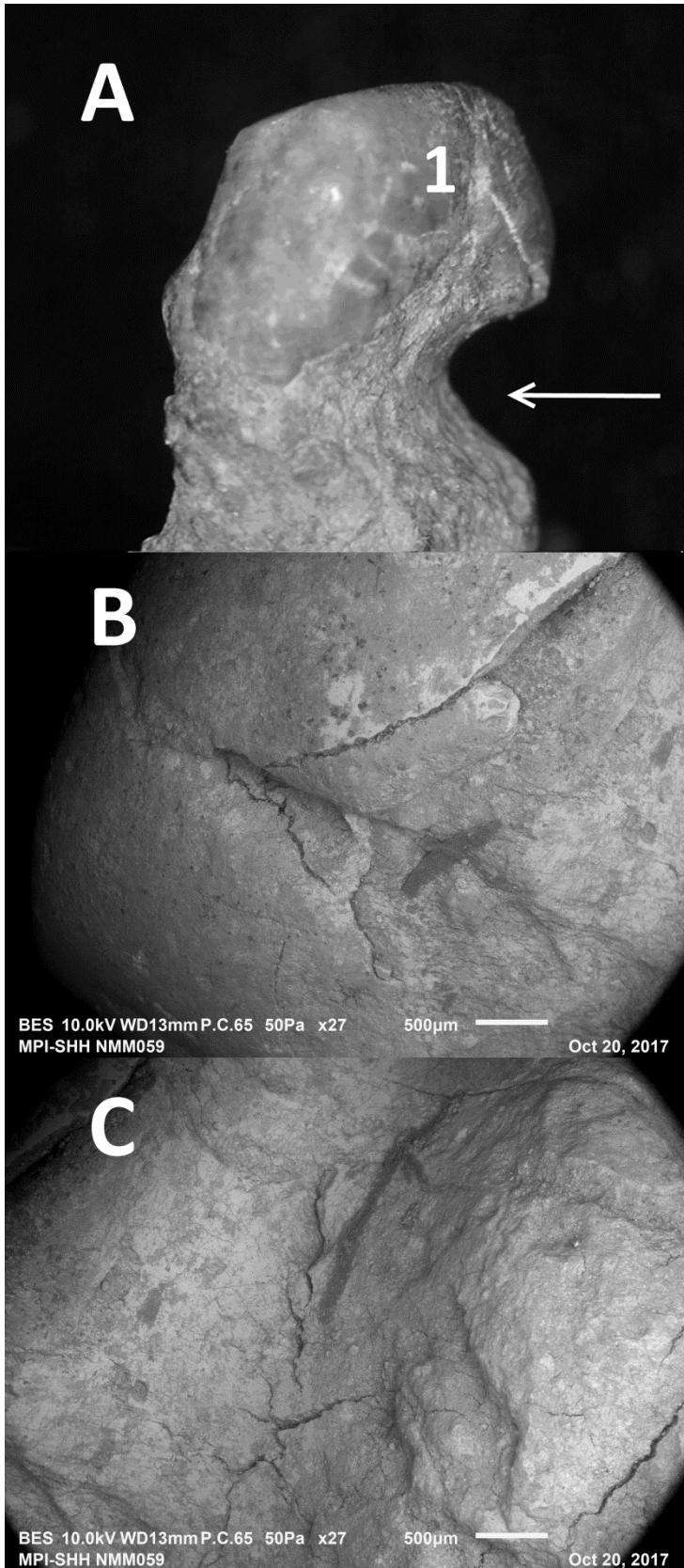


Figure S5. A (top): Photomicrograph showing modified margin of retained deciduous I1 fragment from Khirigsuur 075 at Egiin Gol, showing notched and slab-fractured exterior tooth margin(1), as well as the angle of groove formation/cutting (arrow) under 20x magnification. B (center), shows the same tooth's slab fracture of enamel plate caused by perpendicular impact, and C (bottom), closeup under SEM showing rounded morphology)



Figure S6. Anterior view of tooth from Egiin Gol, showing lateral location of the surficial modification. View from the anterior (labial) direction.

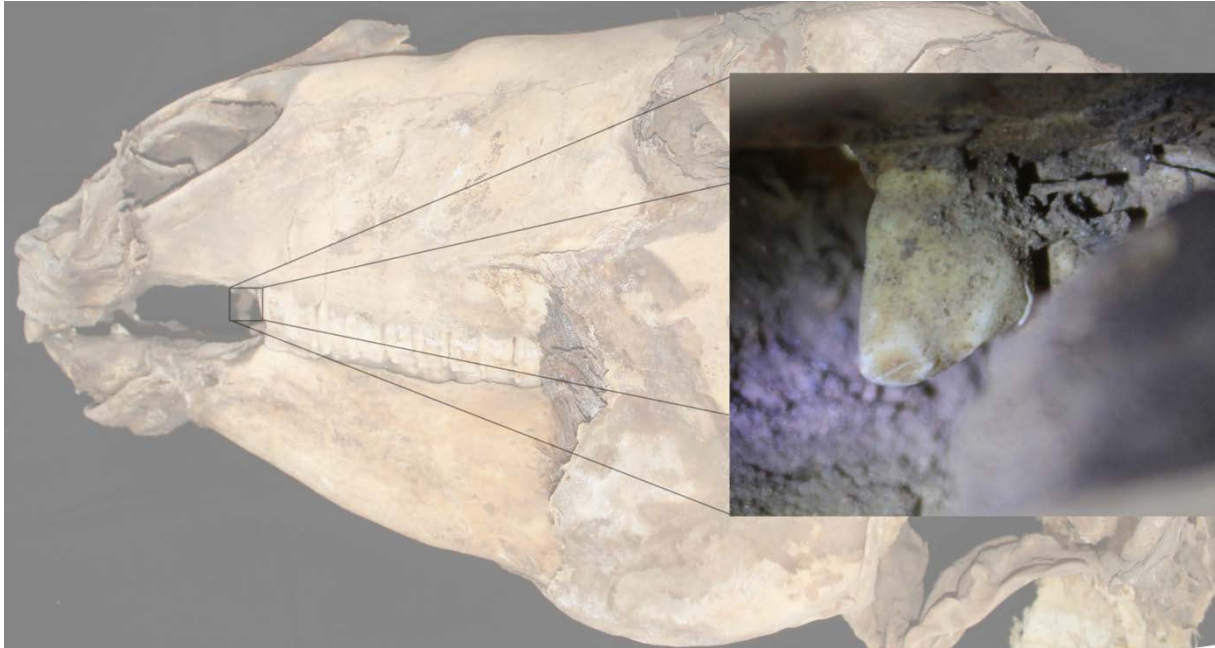


Figure S7. Damage to the retained wolf tooth in a 4-5 year old mummified horse, dating to the 2-4th centuries CE from the site of Urd Ulaan-Uneet in western Mongolia.

Table S1. Specimens used in analysis, along with taphonomic and dental data. Legend: (+) = present, (-) = absent, L = left, R = right, LP2 = lower second premolar, UP 2 = upper second premolar, LL = Lower Left, LR = Lower Right, UL = Upper Left, UR = Upper Right, morph. = morphology, indet. = indeterminate, juv. = juvenile

Specimen (reference #)	Cultural affiliation/period	Estimated age, yrs. (basis)	Estimated sex	Wolf tooth?	Taphonomic notes	Evidence for healing?
Khuvsgul, Tsagaan Uul sum, Khushuutin Gol DS Feature 2 (001)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	14-20+ (crown height)	Likely male	Indet.		
Khuvsgul, Tsagaan Uul sum, Bor Hujiriin Gol 1 Feature 2 (002)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	14-15 (crown height)	Indet.	Indet.		
Khuvsgul, Tsagaan Uul sum, Khushuutin Gol DS Feature 3 (003)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	20+ (crown height, incisor morph)	Likely male	Absent		
Bayan Ulgii, Tsengel sum, On Khad KS (008)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	6-7 (incisor morph)	Male	Absent		
Khuvsgul, Renchinlkhumbe sum, Tsatstain Khushuu DS Feature 2 (009)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	20+ (crown height)	Male	Absent		
Khuvsgul, Renchinlkhumbe sum, Tsatstain Khushuu DS Feature 1 (010)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	2-2.5 (eruption)	Indet. (Juv.)	Present (upper)	Mostly complete (UR area unassessable)	
Zavkhan, Telmen sum, Uguumur DS2 F1 (014)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	2-2.5 (eruption)	Indet. (Juv.)	Present (upper)	Mostly complete (UL area unassessable)	
Zavkhan, Telmen sum, Uguumur DS 8 (015)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	2-2.5 (eruption)	Indet. (Juv.)	Present (upper)	Mostly complete (UR area unassessable)	
Zavkhan, Shiluustei sum, Daagan	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	20+ (crown height)	Female	Indet.		

Del DS (016)	Stone/Khirigsuur)	incisor morph)				
Khuvsugul, Alag-Erdene sum, Ulaan Tolgoi DS 4 feature 6 (017)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	11-18 (crown height)	Likely male	Indet.		
Khuvsugul, Alag-Erdene sum, Ulaan Tolgoi DS 4 feature 5 (018)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	1-2 (eruption)	Indet. (Juv.)	Present (upper)	Mostly complete (UL area unassessable)	
Tuv, Zaamar sum, Ulaan Khadnii Am 40 feature 3 (020)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	10-12 (crown height)	Indet.	Indet.		
Tuv, Zaamar sum, Ulaan Khadnii Am AD 40 feature 1 (021)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~2 (eruption)	Indet.	Indet.		
Tuv, Zaamar sum, Ulaan Khadnii Am AD 40 feature 4 (022)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	10-14 (crown height)	Indet.	Indet.		
Tuv, Zaamar sum, Ulaan Khadnii Am AD 40 feature 5(023)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	11-15 (crown height)	Male	Indet.		
Arkhangai, Undur-Ulaan sum, Jargalantyn Am F 5 2011 Khanui Valley (024)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~0.75 (eruption)	Indet.	Indet.		
Arkhangai, Undur-Ulaan sum, Jargalantyn Am F4 2011 Khanui Valley (025)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	8-13 (crown height)	Indet.	Indet.		
Arkhangai, Undur-Ulaan sum, Urt Bulagyn KYRI-22 (026)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	2-2.5 (crown height)	Indet.	Indet.		
Khuvsugul, Alag-Erdene sum, Ulaan	Bronze Age, 1200-700 BCE (Deer	~8 (incisor morph)	Male	Alveolus (upper)	Broken and possibly fell out, specimen	NA

Tolgoi DS 5 feature 2 (027)	Stone/Khirigsuur)					could not be relocated to clarify
Khuvsgul, Renchinlkhumbe sum, Zeerdegchingiin Khushuu KS F1 (028)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	11-12 (crown height)	Male	Absent		
Khuvsgul, Galt sum, Nukhtiin Am Mound 1 feature 1 (029)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	7-9 (crown height)	Male	Indet.		
Arkhangai, Undoor Ulaan sum, Urt Bulagyn KS KYRI 21 (030)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	11-16 (crown height)	Male	Absent		
Khuvsgul, Galt sum, Nukhtiin Am Deer Stone Site Feature 1 (031)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	11-13 (crown height)	Likely male	Indet.		
Khuvsgul, Alag-Erdene sum, Ulaan Tolgoi Deer Stone 5 Feature 3, L2 (032)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~0.5 (eruption)	Indet.	Present (upper)		Badly damaged, only UR area visible
Khuvsgul, Alag-Erdene sum, Ulaan Tolgoi Deer Stone 5 feature 4 (033)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~0.5 (eruption)	Indet.	Indet.		
Khuvsgul, Tumurbulag sum, Zunii Gol A1F3 (034)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	11-14 (crown height)	Indet.	Absent		
Bulgan, Khutag-Undur sum, Uurgiin Gol 4 1-064-03 (035)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	10-16 (crown height)	Likely male	Indet.		
Bulgan, Khutag-Undur sum, Uurgiin Gol 4 1-064-04A (036A)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	13-15 (crown height)	Likely male	Indet.		
Bulgan, Khutag-	Bronze Age, 1200-700 BCE	11-13 (crown	Indet.	Indet.		

Undur sum, Uurgiin Gol 4 1-064-04B (036B)	(Deer Stone/Khirigsuur)	height)		
Bulgan, Khutag- Undur sum, Uurgiin Gol 4 1-064-02 (037)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	8-12 (crown height)	Likely male	Indet.
Bulgan, Khutag- Undur sum, Uurgiin Gol 4 1-064-05 (038)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	8-12 (crown height)	Indet.	Indet.
Bulgan, Khutag- Undur sum, Uurgiin Gol 4 1-064-06 (039)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	0.5-0.75 (eruption)	Indet. (Juv.)	Indet.
Khuvsgul, Tumurbulag sum, Zunii Gol K3 (040)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	10-14 (crown height)	Male	Indet.
Khuvsgul, Tumurbulag sum, Zunii Gol DS 4 (041)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	9-14 (crown height)	Female	Indet.
Khuvsgul, Tumurbulag sum, Zunii Gol DS 7 (042)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	3.5-4 (eruption, crown height)	Likely male	Absent
Khuvsgul, Galt sum, Khushuutin Am F. 18 (043)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	6-8 (crown height)	Indet.	Indet.
Khuvsgul, Shine-Ider sum, Tsokhiotin Ovoo (044)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~1 (eruption)	Indet. (Juv.)	Indet.
Bayankhong or, Erdenetsogt sum, Bor Shoroonii Am HM1 (045)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	14-17 (crown height)	Male	Absent
Khuvsgul, Renchinlkhu mbe sum, Zeerdegchin giin Khushuu FB (046)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	0.75-1 (eruption)	Indet. (Juv.)	Indet.

Khuvsgul, Renchinlkhumbe sum, Zeerdegchigiin Khushuu FA (047)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	10-15 (crown height)	Male	Absent	
Khuvsgul, Renchinlkhumbe sum, Targan Nuur Feature 1 (048)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	11-12 (crown height)	Indet.	Indet.	
Uvs, Zuunkhangai sum, ZK 1-4 (049)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	2.5-3 (eruption)	Likely male	Indet.	
Uvs, Zuunkhangai sum, ZK 257-3 (050)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	14-17 (crown height)	Likely male	Absent	
Uvs, Zuunkhangai sum, ZK 1-3 (051)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	20+ (crown height)	Indet.	Absent	
Uvs, Zuunkhangai sum, ZK1-1 (052)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	0.5-0.75 (eruption)	Indet. (Juv.)	Present (upper)	Mostly complete (Lower right fractured)
Uvs, Zuunkhangai sum, ZK1-2 (053)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~0.75 (eruption)	Indet. (Juv.)	Present (upper)	Halfway complete (Upper missing, lower complete).
Uvs, Zuunkhangai sum, ZK257-4 (054)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~2 (eruption)	Indet. (Juv.)	Indet.	
Uvs, Zuunkhangai sum, ZK257-1 (055)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~4 (eruption)	Indet.	Indet.	
Bayankhongor, Erdenetsogt sum, Shatar Chuluu DS 1 (056)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	13-14 (crown height)	Likely male	Absent	
Bayankhongor, Erdenetsogt sum, Shatar Chuluu KS 1 (057)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	6-11 (crown height)	Likely male	Absent	
Bulgan, Khutag-Undur sum, K75-3 (058)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	6-10 (crown height)	Likely male	Indet.	

Bulgan, Khutag-Undur sum, Darkhan Uul K75-2 (059)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	3-4 (eruption)	Likely male	Indet.
Bulgan, Khutag-Undur sum, K75-10 (060)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	0.75-1 (eruption)	Indet. (Juv.)	Indet.
Bulgan, Khutag-Undur sum, K75-1 (061)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	1-2 (eruption)	Indet. (Juv.)	Indet.
Bulgan, Khutag-Undur sum, K75-4 (062)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~10 (incisor morph)	Likely male	Indet.
Bayankhongor, Shatar Chuluu DS 2 (067)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	9-10 (crown height)	Indet.	Indet.
Khuvsgul aimag, Alag-Erdene sum, Khushuutiin Devseg DS F-3 (083)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	9-14 (crown height)	Indet.	Indet.
Khuvsgul aimag, Alag-Erdene sum, Khushuutiin Devseg DS F-1 (084)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	7-10 (crown height)	Indet.	Indet.
Khuvsgul aimag, Alag-Erdene sum, Khushuutiin Devseg DS F-2A (085)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	1-2 (eruption)	Indet.	Indet.
Tuv, Zaamar sum, Ulaan Khadnii Am AD 41 feature 3 (090)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	7-9 (crown height)	Indet.	Indet.
Tuv, Zaamar sum, Ulaan Khadnii Am AD 41 feature 2 (091)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	~5 (eruption)	Indet.	Indet.
Bulgan, Khutag-Undur, Uurgiin Gol Khirisguur 75/76	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	7-10 (crown height)	Likely male	Indet.

Indet.(092)						
Bulgan, Khutag-Undur sum, K76-7 (093)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	5-9 (eruption, crown height)	Indet.	Indet.		
Bayankhong or, Gurvanbulag sum, Morin Mort Feature 2 (095)	Bronze Age, 1200-700 BCE (Deer Stone/Khirigsuur)	16+ (incisor morph)	Female	Absent		
Bayankhong or, Ulziit sum, Shorgooljin Bulsh (Ant Shaped Burial), Bulgan Uul (078)	Bronze Age, 1500-700 BCE (Shape Burial)	7-11 (crown height)	Indet.	Indet.		
Bayankhong or, Erdenetsogt sum, Bor Shoroonii Am Slab Grave 2-1-2 (068)	Early Iron Age, 800-300 BCE (Slab Burial)	1-2 (eruption)	Indet. (Juv.)	Alveolus (upper)	Complete	Y (UR, UL)
Bayankhong or, Erdenetsogt sum, Bor Shoroonii Am Slab Grave 2-1-1 (070)	Early Iron Age, 800-300 BCE (Slab Burial)	1-2 (eruption)	Likely male	Alveolus (upper)	Complete	Y (LL), NO (UL, LR), POSSIBLE (UR)
Bayankhong or, Erdenetsogt sum, Bor Shoroonii Am, Slab Grave 2-1-6 (072)	Early Iron Age, 800-300 BCE (Slab Burial)	11-20+ (crown height)	Likely female	Absent		
Bayankhong or, Erdenetsogt sum, Bor Shoroonii Am, Slab Grave 2-1-3 (073)	Early Iron Age, 800-300 BCE (Slab Burial)	2-2.5 (eruption)	Indet. (Juv.)	Alveolus (upper)	Lower jaw fractured but complete, upper R fractured but complete, UL complete	Y (UL), NO (UR)
Bayankhong or, Erdenetsogt sum, Bor Shoroonii Am, Slab Grave 2-1-7	Early Iron Age, 800-300 BCE (Slab Burial)	0.5-0.75 (eruption)	Indet. (Juv.)	Indet.		

(074)							
Bayankhong or, Erdenetsogt sum, Bor Shoroonii Am, Slab Grave 2 (077)	Early Iron Age, 800-300 BCE (Slab Burial)	4-7 (crown height)	Indet.	Indet.			
Bayan Ulgii, Tsengel sum, Khuiten Gol Delta 2-2 (Biluut 2-2) (012)	Early Iron Age, 600-300 BCE (Pazyryk)	2-2.5 (eruption)	Indet. (Juv.)	Alveolus (both)	Complete	YES (UL, LR), NO (UR), TOOTH PRESENT (LL)	
Bayan Ulgii, Tsengel sum, Khuiten Gol Delta 2-1 (Biluut 2-1) (013)	Early Iron Age, 600-300 BCE (Pazyryk)	14-15 (crown height)	Male	Absent			
Khovd, Mankhan sum, Takhilt THL 64.65 (071)	Xiongnu (200 BCE-100 CE)	9-11 (crown height, incisor morph)	Male	Absent			
Bulgan aimag, Dashinchilen sum, Elst-Ar, Burial 14 (079)	Xiongnu (200 BCE-100 CE)	0.75-1 (eruption)	Indet. (Juv.)	Alveolus (upper)	Complete	Y(UL), NO (UR)	
Bulgan aimag, Dashinchilen sum, Elst-Ar, Burial 11 (080)	Xiongnu (200 BCE-100 CE)	15+ (incisor morph)	Likely female	Absent			
Orkhon, Jargalant sum, Airagiin Gozgor, Burial 2 (086)	Late Xiongnu (ca. 50-150 CE)	2-2.5 (eruption)	Indet. (Juv.)	Alveolus (lower)	Indet.	Y (LR), NO (LL)	
Orkhon, Jargalant sum, Airagiin Gozgor, Burial 84(094)	Late Xiongnu (ca. 50-150 CE)	8-12 (crown height)	Male	Indet.			
Khovd, Myangad sum, Ulaan-Unet Cave Burial (087)	Post-Xiongnu (100 CE-500 CE)	4-4.5 (eruption)	Male	Present (both)			
Bayan Ulgii, Tsengel sum, Khuiten Gol Delta Turkic	Turkic Khaganate (500 CE-800 CE)	8-9 (incisor morph)	Male	Absent			

burial (011)

Bulgan
aimag,
Dashinchilen
sum,
Dundgozgor,
Burial 10
(081)

Turkic Khaganate
(500 CE-800 CE)

8-13
(incisor
morph)

Male

Indet.

Arkhangai
aimag,
Khotont
sum, Ovor
Khavtsaliin
Am (082)

Turkic Khaganate
(500 CE-800 CE)

4-7
(eruption,
incisor
morph.)

Male

Alveolus
(upper)

Broken and
possibly fell
out, specimen
could not be
relocated to
clarify

Table S2. Dental and cranial osteological data for horses used in Taylor and Tuvshinjargal (2018). Legend: (+) = present, (-) = absent, L = left, R = right, LP2 = lower second premolar, UP 2 = upper second premolar, LL = Lower Left, LR = Lower Right, UL = Upper Left, UR = Upper Right, Anthr. = anthropogenic, Nat. Mal. = natural malocclusion, morph. = morphology, indet. = indeterminate, poss. = possible

ID	Era	Provenience	Est. age in years (basis)	Est. sex	Premaxilla depth (mm)		Left-Right	Nasal remodeling	LP2 Bevel (mm)		UP2 bevel	Bevel cause	Enamel exposure		Morph. Indicative of biting?	Enamel chip		Notes
					Left	Rright			Left	Right			L	R		L	R	
NMM 001	Bronze Age-DSK	Khuvsgul, Tsagaan Uul sum, Khushuutin Gol DS Feature 2	14-15 (wear)	LIKELY MALE	0.186	0.882	-0.696		0	0	+ (R)	Anthr. (upper)			No	+	+	Concavity to lower LP2 anterior margin
NMM 002	Bronze Age-DSK	Khuvsgul, Tsagaan Uul sum, Bor Hujiriin Gol 1 Feature 2	14-15 (wear)	indet.					0		+ (L, R)	Anthr. (upper)						Greaves effect (UL)
NMM 003	Bronze Age-DSK	Khuvsgul, Tsagaan Uul sum, Khushuutin Gol DS Feature 3	20+ (wear)	LIKELY MALE	1.762	2.331	-0.569	+		0					No			
NMM 008	Bronze Age-DSK	Bayan Ulgii, Tsengel sum, On Khad KS	6-7 (wear)	MALE	0.758	0.889	-0.131		1.8	2.27		Nat. mal.	+ (L)	+	No			
NMM 009	Bronze Age-DSK	Khuvsgul, Renchinkhumbe sum, Tsatstain Khushuu DS Feature 2	20+ (wear)	MALE	0.356			-										
NMM 016	Bronze Age-DSK	Zavkhan, Shiluustei sum, Daagan Del DS	20+ (wear)	FEMALE					2.46	1.2		Nat. mal.		+	No	+	(L)	
NMM 017	Bronze Age-DSK	Khuvsgul, Alag-Erdene sum, Ulaan Tolgoi DS 4 feature 6	11-18 (wear)	LIKELY MALE					0									
NMM 020	Bronze Age-DSK	Tuv, Zaamar sum, Ulaan Khadnii Am 40 feature 3	10-12 (wear)	indet.														
NMM 022	Bronze Age-DSK	Tuv, Zaamar sum, Ulaan Khadnii Am AD 40 feature 4	10-14 (wear)	indet.														
NMM 023	Bronze Age-DSK	Tuv, Zaamar sum, Ulaan Khadnii Am AD 40 feature 5	10-15 (wear)	MALE					0	0								
NMM 025	Bronze Age-DSK	Arkhangai, Undur-Ulaan sum, Jargalantyn Am F4 2011 Khanui Valley	8-13 (wear)	indet.					0									
NMM 027	Bronze Age-DSK	Khuvsgul, Alag-Erdene sum, Ulaan Tolgoi DS 5 feature 2	6-9 (wear)	MALE	0.613				0	0			+ (L)	+	No			
NMM 028	Bronze Age-DSK	Khuvsgul, Renchinkhumbe sum, Zeerdegchingiin Khushuu KS F1 (2006)	11-12 (wear)	MALE	0				0	2.41		Indet.	+ (L)	+	No	+	+	
NMM 029	Bronze Age-DSK	Khuvsgul, Galt sum, Nukhtiin Am Mound 1 feature 1	(8-9),(7-8)	MALE														
NMM 030	Bronze Age-DSK	Arkhangai, Undoor Ulaan sum, Urt Bulagyn KS KYRI 21	11-16 (wear)	MALE	0.702				8.524	5.26		Nat. mal						
NMM 031	Bronze Age-DSK	Khuvsgul, Galt sum, Nukhtiin Am Deer Stone Site Feature 1	11-13 (wear)	LIKELY MALE										+				
NMM 034	Bronze Age-DSK	Khuvsgul, Tumurbulag sum, Zunii Gol A1F3	11-14 (wear)	Indet.					2.34	1.44		Nat. mal	+ (U)		No	+	(L)	
NMM 035	Bronze Age-DSK	Bulgan, Khutag-Undur sum, Uurgiin Gol 4 1-064-03	10-16 (wear)	LIKELY MALE					0								+	(L)
NMM	Bronze	Bulgan, Khutag-Undur sum,	13-15	LIKELY					0	0							+	

											(U)				
036A	Age-DSK	Uurgiin Gol 4 1-064-04A	(wear)	MALE											
NMM 036B	Bronze Age-DSK	Bulgan, Khutag-Undur sum, Uurgiin Gol 4 1-064-04B	11-13 (wear)	LIKELY MALE											
NMM 037	Bronze Age-DSK	Bulgan, Khutag-Undur sum, Uurgiin Gol 4 1-064-02	8-12 (wear)	Indet.	1.59	1.33		Indet.	+ (L)	+ (L)	Yes				
NMM 038	Bronze Age-DSK	Bulgan, Khutag-Undur sum, Uurgiin Gol 4 1-064-05	8-12 (wear)	LIKELY MALE	0	1.61		Indet.			No	+	+		
NMM 040	Bronze Age-DSK	Khuvsgul, Tumurbulag sum, Zunii Gol K3	10-14 (wear)	MALE	3.73	2.25	+ (L, R)	Anthr. (upper)			No				
NMM 041	Bronze Age-DSK	Khuvsgul, Tumurbulag sum, Zunii Gol DS 4	9-14 (wear)	NO	1.64	1.29	+ (L, R)	Indet.	+ (U)		No	+	(L)		
NMM 042	Bronze Age-DSK	Khuvsgul, Tumurbulag sum, Zunii Gol DS 7	3.5-4 (eruption)	LIKELY MALE								+ (L)	+	(L)	No
NMM 043	Bronze Age-DSK	Khuvsgul, Galt sum, Khushuutin Am F. 18	6-8 (wear)	Indet.											
NMM 045	Bronze Age-DSK	Bayankhongor, Erdenetsogt sum, Bor Shoroonii Am HM1	14-17 (wear)	MALE	0.368	0	0.83	Nat mal.			No	Concavity to lower LP2 anterior margin			
NMM 047	Bronze Age-DSK	Khuvsgul, Renchinkhumbe sum, Zeerdegchingiin Khushuu FA	10-15 (wear)	MALE	0	0	0		+ (U, L)	+	(L)	No			
NMM 048	Bronze Age-DSK	Khuvsgul, Renchinkhumbe sum, Targan Nuur Feature 1	11-12 (wear)	Indet.											
NMM 049	Bronze Age-DSK	Uvs, Zuunkhangai sum, ZK 1-4	2.5-3 (eruption)	LIKELY MALE	0	0.131	-0.131				No				
NMM 050	Bronze Age-DSK	Uvs, Zuunkhangai sum, ZK 257-3	14-17 (wear)	LIKELY MALE	0	2.14		Nat mal.							
NMM 051	Bronze Age-DSK	Uvs, Zuunkhangai sum, ZK 1-3	20+ (wear)	Indet.	0	0					No				
NMM 055	Bronze Age-DSK	Uvs, Zuunkhangai sum, ZK257-1	~4 (eruption)	Indet.											
NMM 056	Bronze Age-DSK	Bayankhongor, Erdenetsogt sum, Shatar Chuluu DS 1	13-14 (wear)	LIKELY MALE	0.332		Poss.	2.64	1.37		Nat mal.	+	(U)		
NMM 057	Bronze Age-DSK	Bayankhongor, Erdenetsogt sum, Shatar Chuluu KS 1	6-11 (wear)	LIKELY MALE	0				1.98		Nat mal.	No	+	(L)	
NMM 058	Bronze Age-DSK	Bulgan, Khutag-Undur sum, K75-3	6-10 (wear)	LIKELY MALE								1.53	Indet.	No	
NMM 059	Bronze Age-DSK	Bulgan, Khutag-Undur sum, K75-2	3-4 (eruption)	LIKELY MALE											
NMM 062	Bronze Age-DSK	Bulgan, Khutag-Undur sum, K75-4	~10 (root morph.)	LIKELY MALE											
NMM 066	Bronze Age-DSK	Uvs, Zuunkhangai sum, Khurdleyiin Am	7-8 (wear)	Indet.											
NMM 067	Bronze Age-DSK	Bayankhongor, Shatar Chuluu DS 2	9-10 (wear)	Indet.											
NMM	Bronze	Khuvsgul aimag, Alag-Erdene	9-14	Indet.											

083	Age-DSK	sum, Khushuutiin Devseg DS F-3	(wear)																		
NMM	Bronze	Khuvsgul aimag, Alag-Erdene	7-10	Indet.																	
084	Age-DSK	sum, Khushuutiin Devseg DS F-1	(wear)																		
NMM	Bronze	Tuv, Zaamar sum, Ulaan Khadnii	7-9 (wear)	Indet.																	
090	Age-DSK	Am AD 41 feature 3																			
NMM	Bronze	Tuv, Zaamar sum, Ulaan Khadnii	~5	Indet.																	
091	Age-DSK	Am AD 41 feature 2	(eruption)																		
NMM	Bronze	Bulgan, Khutag-Undur, Uurgiin	7-10	LIKELY																	
092	Age-DSK	Gol Khirisguur 75/76	(wear)	MALE	1.96	1.68				Indet.											
NMM	Bronze	Bulgan, Khutag-Undur sum,K76-	5-9	Indet.																	
093	Age-DSK	7	(eruption/ wear)																		
IMH	Contemp.	Lexington, KY	18+	LIKELY	1.022	1.172	-0.15	-													
2008.10	American		(wear)	MALE																	
1																					
IMH	Contemp.	Lexington, KY	25 (hist.		0.291	0.278	0.013	-													
Hanover	American		records)	MALE																	
IMH	Contemp.	Lexington, KY	25 (hist.		1.182	0.91	0.272	-													
Indraff	American		records)	MALE																	
IMH	Contemp.	Lexington, KY	25 (hist.		0.507	0.484	0.023	-													
Lexingt	American		records)	MALE																	
on																					
IMH	Contemp.	Lexington, KY	4 (hist.		NA	0.637	NA	-													
Sysonby	American		records)	MALE																	
MSB	Contemp.	Albuquerque, NM roadside find	~10-11	MALE	0.862	0.684	0.178	-													
193704	American	(gelding)	(wear)																		
NMNH	Contemp.	Haleb	8 (hist.	MALE	0.259	0.314	-0.055														
172454	American		records)																		
NMNH	Contemp.	Percheron Stallion	~6 (wear)	MALE	1.103	1.169	-0.066														
174960	American																				
NMNH	Contemp.	US College of Veterinary	18+	FEMALE	0.351	0.348	0.003														
174968	American	Surgeons, Washington DC	(wear)																		
NMNH	Contemp.	Kidron	35 (hist.	MALE	0.793	0.821	-0.028														
270900	American		records)																		
NMNH	Contemp.	Baird Farm, Carlisle, PA	~9 (wear)	MALE	0.282	0.309	-0.027														
843	American																				
CMH 1	Contemp.	Ulaanbaatar	~4	FEMALE	0.279	0.552	-0.273	-													
	Mongolian		(eruption)																		
CMH 2	Contemp.	Bayankhongor, Gurvanbulag	18+	MALE	0.214	1.203	-0.989	+	3.19	3.43		Nat	+ (L)		Yes		+	+		Pronounced concavity	
	Mongolian	sum	(wear)									mal.				(U,	(U,	(L)	(L)		to LLP2 anterior
																					margin
CMH 3	Contemp.	Tuv, Khustai Nuruu	5+	MALE	0.522	0.592	-0.07	-													
	Mongolian		(eruption)																		
CMH 4	Contemp.	Tuv, Gun-Galuut	16+	MALE	0.326	0.639	-0.313	-	1.5	3.13		Nat	+ (L)	+	Yes		+	+		Concavity to lower LP2	
	Mongolian		(wear)									mal.		(L)		(L)	(L)	(L)			anterior margin
CMH 5	Contemp.	Tuv, Terelj (near Erdene sum)	~4.5	MALE	0.401	0.272	0.129	-													
	Mongolian		(eruption)																		
CMH 6	Contemp.	Tuv, Terelj	5+	MALE	0.641	0.537	0.104	-													
	Mongolian		(eruption)																		
CMH 7	Contemp.	Tuv., Terelj	13-16	MALE	0.561	0.686	-0.125	+													
	Mongolian		(wear)																		

CMH 8	Contemp. Mongolian	Tuv, Khustai Nuruu	11-12 (wear)	MALE	0.413	0.763	-0.35	-							
CMH 9	Contemp. Mongolian	Uvurkhangai, Bat-Ulzii	16+ (wear)	FEMALE	0	0	0	-	0	0		+ (L)	+	Yes	Bowing out of lower teeth
CMH 10	Contemp. Mongolian	Uvurkhangai, Bat-Ulzii	5+ (eruption)	FEMALE	0	0	0	+							
CMH 11	Contemp. Mongolian	Uvurkhangai, Bat-Ulzii	~7 (wear)	FEMALE	NA	NA	NA					+ (L)	+	No	
CMH 12	Contemp. Mongolian	Uvurkhangai, Bat-Ulzii	4 (eruption)	MALE	0.395	0.271	0.124	+	0			+ (L)		No	
CMH 13	Contemp. Mongolian	Uvurkhangai, Bat-Ulzii	5+ (eruption)	MALE	0	0	0	-							
CMH 14	Contemp. Mongolian	Gobi-Altai, Biger	5+ (eruption)	MALE	NA	NA	NA		2.59	1.71		+ (L)	+	Yes	Occlusal concavity LLP2
CMH 15	Contemp. Mongolian	Tuv, Khustai Nuruu	8-9 (wear)	MALE	0.422	0.627	-0.205	Poss.							
KNNP Przewalski	Contemp. Przewalski	Tuv, Khustai Nuruu	~6 (wear)	MALE	0	0	0	-							
MSB 54743	Contemp. Przewalski	Albuquerque, NM	~5-6 (wear)	MALE	0.289	0.194	0.095	-							
NMNH 238111	Contemp. Przewalski	Washington, D.C - National Zoological Park	~5-6 (wear)	MALE	0	0	0	-							
NMNH 311033	Contemp. Przewalski	Washington, D.C - National Zoological Park	18+ (wear)	FEMALE	0.188	0.248	-0.06	-							
NMNH 582088	Contemp. Przewalski	Washington, D.C - National Zoological Park	6 (hist. Records)	FEMALE	0.342	0	0.342	-							
NMNH 582467	Contemp. Przewalski	Washington, D.C - National Zoological Park	~8 (wear)	FEMALE	0.086	0.144	-0.058	-							
NMNH 582910	Contemp. Przewalski	Washington, D.C - National Zoological Park	~7 (wear)	MALE	0.754	0.678	0.076	-							
MSB 146537	Feral American	Albuquerque, NM	~5 (eruption/wear)	FEMALE	0	0	0	-							
MSB 150587	Feral American	Albuquerque, NM	~6 (wear)	FEMALE	0	0	0	-							
NMNH 268938	Feral American	Chincoteague Island	7-8 (wear)	FEMALE	0.238	0.301	-0.063	-							
NMNH 302898	Feral American	Assateague Island	10-11 (wear)	FEMALE	0.182	0.15	0.032	-							
NMNH 395432	Feral American	Assateague Island	18+ (wear)	FEMALE	0.302	0	0.302	-							
NMNH 295180	Feral American	Assateague Island	~5 (eruption/wear)	Indet.	0.61	0.45	0.138								

NMM 013	Pazyryk	Bayan Ulgii, Tsengel sum, Khuiten Gol Delta 2-1 Pazyryk burial (Biluut 2-1)	14-15 (wear)	MALE	1.306	0.95	0.356		7.35		+ (L, R)	Anthr.	+ (U)		Yes	
NMM 071	Xiongnu	Khovd, Mankhan sum, Takhilt THL 64.65 Royal Tomb	9-11 (wear)	MALE	0.667	0.856	-0.189	Possible	6.86	5.37	+ (L, R)	Anthr.	+ (U)	+		Greaves effect (lower)
NMM 080	Xiongnu	Bulgan aimag, Dashinchilen sum, Elst-Ar, Burial 11	15+ (wear)	FEMALE	0	0.911	-0.911	Possible	0	0			+ (L)	+	Yes	Concavity (LR)
NMM 094	Xianbei	Orkhon, Jargalant sum, Airagiin Gozgor, Burial 84	8-12 (wear)	MALE	0.57	NA	NA	-	0.66	0.79		Nat mal.	+ (L)	+	Yes	+
NMM 011	Turkic Khaganate	Bayan Ulgii, Tsengel sum, Khuiten Gol Delta Turkic burial	8-9 (wear)	MALE	1.03	0.852	0.178	+	9.81	8.22	+ (L, R)	Anthr.	+ (L)	+	Yes	
NMM 081	Turkic Khaganate	Bulgan aimag, Dashinchilen sum, Dundgozgor, Burial 10	8-13 (wear)	MALE	NA	NA	NA		6.83	4.84		Indet.			No	
NMM 082	Turkic Khaganate	Arkhangai aimag, Khotont sum, Ovur Khartsaliin Am	4-5 (eruption)	MALE	0.714	0	0.714	-	3.12	0.77		Nat mal.	+ (L)	+	Yes	+
NMM 087	10th Century/Khitans	Khovd, Myangad sum, Ulaan-Unet Cave Burial	4-4.5 (eruption)	MALE	0.206	NA	NA	+								