

JAMA Round Robin Test Results
Flex-GTR-prototype (SN03)

Back Grounds

- JAMA had a task from the Flex-TEG to conduct round robin test among the JAMA members using Flex-GTR-prototype (SN03).
- JAMA member company therefore started the round robin test form April 2009 using the Flex-GTR-prototype (SN03).
- JAMA member company evaluated the repeatability, durability and usability of the impactor during the round robin test.
- Eight JAMA member companies conducted the round robin tests, therefore we would like to shear the results.

Test Schedule

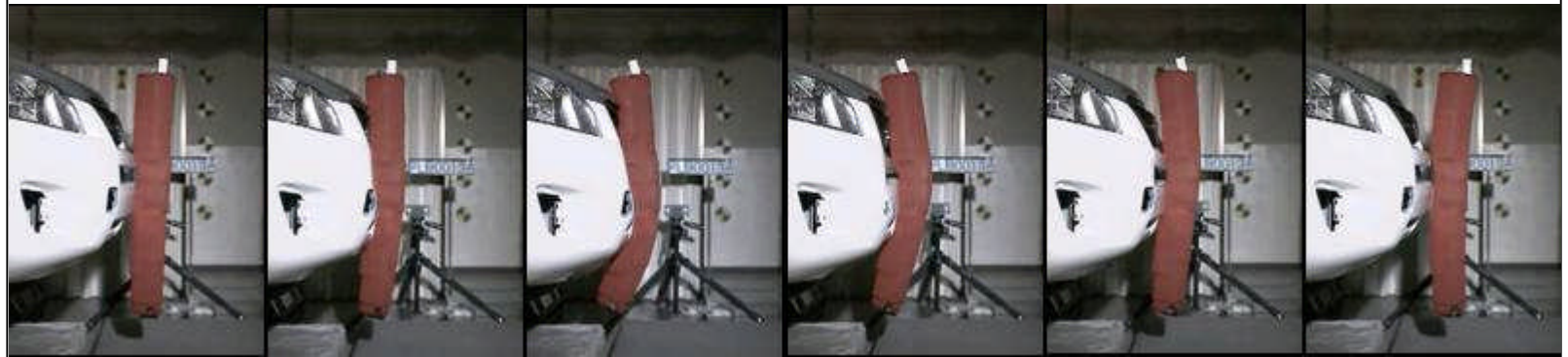
2009							
April		May		June		July	
JAMA April.09-A	JAMA April.09-B	JAMA May.09-A	JAMA May.09-B	JAMA June.09-A	JAMA June.09-B	JAMA July.09-A	JAMA July.09-B
Car Tests (n=3)	Car Tests (n=3)	Car Tests (n=3)	Car Tests (n=3)	Car Tests (n=3)	Car Tests (n=3)	Car Tests (n=3)	Car Tests (n=3)
PT	PT	PT	PT	PT	PT	PT	PT

PT: Pendulum Test at JARI

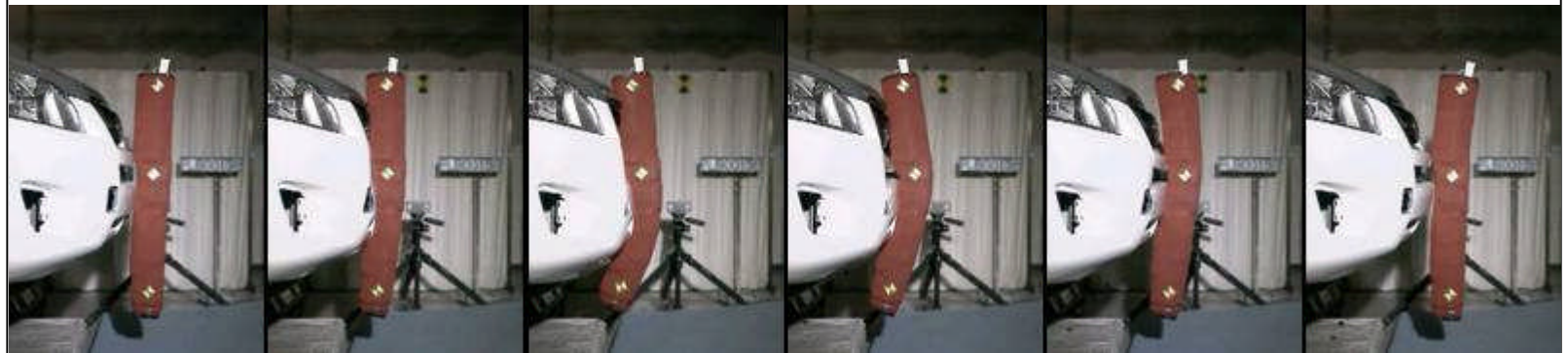
Flex-GTR-prototype JAMA Round Robbing Test Results
(JAMA-Apr.09-A1, A2, A3)

Flex-GTR-prototype JAMA Round Robbing Test Results Kinematics (JAMA-Apr.09-A1, A2, A3)

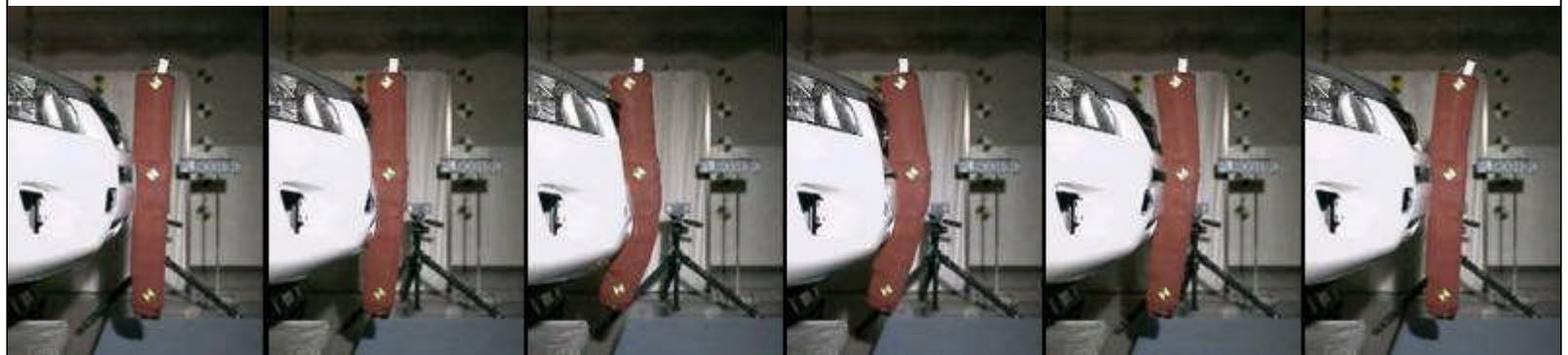
JAMA-Apr.09-A1



JAMA-Apr.09-A2



JAMA-Apr.09-A3



0 ms

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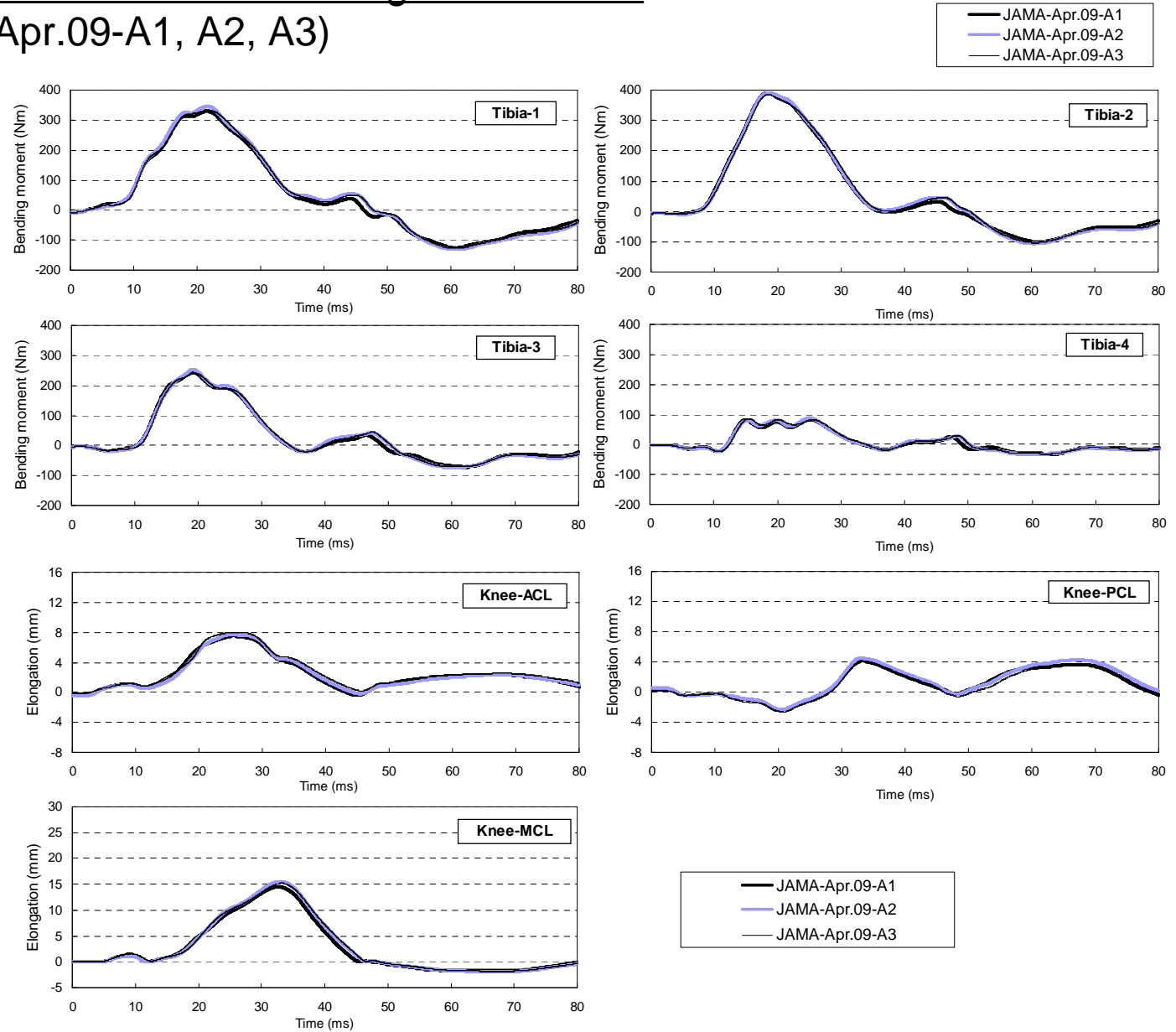
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Flex-GTR-prototype JAMA Round Robbing Test Results

Waveforms (JAMA-Apr.09-A1, A2, A3)

- Tibia-1
- Tibia-2
- Tibia-3
- Tibia-4



- Knee-ACL
- Knee-PCL
- Knee-MCL

Flex-GTR-prototype JAMA Round Robbing Test Results

Maximum Values (JAMA-Apr.09-A1, A2, A3)

Repeatability Check for GTR-prototype

Impactor: Flex-GTR-prototype (SN03)
 Test Method: Subsystem (Free fright)
 Test Rig: Car

	Max. values						
	Tibia-1 (Nm)	Tibia-2 (Nm)	Tibia-3 (Nm)	Tibia-4 (Nm)	Knee-ACL (mm)	Knee-PCL (mm)	Knee-MCL (mm)
JAMA-Apr.09-A1	329.1	391.7	244.1	83.1	7.50	4.11	14.4
JAMA-Apr.09-A2	345.3	390.6	253.0	88.0	7.67	4.52	15.5
JAMA-Apr.09-A3	332.0	384.2	241.5	86.3	8.01	4.04	15.1
Avg.	335.5	388.8	246.2	85.8	7.73	4.23	15.0
St. Dev.	8.64	4.07	6.01	2.52	0.26	0.26	0.53
CV (%)	2.58	1.05	2.44	2.93	3.36	6.17	3.55
Judgement *	Good	Good	Good	Good	Acceptable	Acceptable	Acceptable
t-IARV **	318	318	318	318	12.7	12.7	20
St.Dev./t-IARV (%)	2.72	1.28	1.89	0.79	2.04	2.05	2.66
Judgement *	Good	Good	Good	Good	Good	Good	Good

* Injury assessment items and monitoring items were evaluated.

** t-IARV: Tentative Injury Assessment Reference Values

Judgements

Good: < 3%
Acceptable: 3% ≤ and < 7%
Marginal: 7% ≤ and < 10%
Not Acceptable: > 10%

Injury
Assessment
Items

Monitoring
Items

Flex-GTR-prototype JAMA Round Robbing Test Results
(JAMA-Apr.09-B1, B2, B3)

Flex-GTR-prototype JAMA Round Robbing Test Results Kinematics (JAMA-Apr.09-B1, B2, B3)

JAMA-Apr.09-B1



JAMA-Apr.09-B2



JAMA-Apr.09-B3



0 ms

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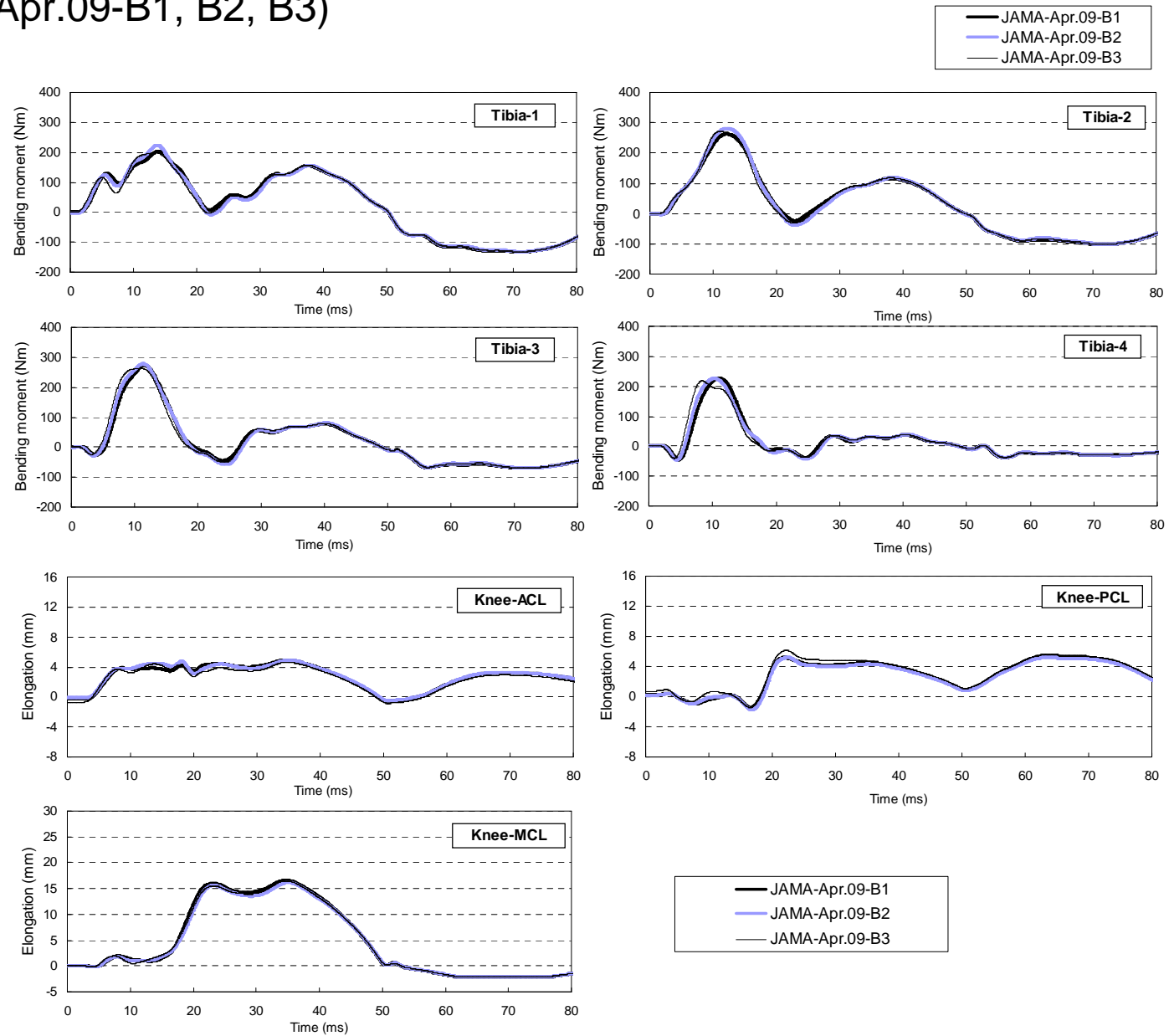
40 ms

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Flex-GTR-prototype JAMA Round Robbing Test Results

Waveforms (JAMA-Apr.09-B1, B2, B3)

- Tibia-1
- Tibia-2
- Tibia-3
- Tibia-4



- Knee-ACL
- Knee-PCL
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Flex-GTR-prototype JAMA Round Robbing Test Results

Maximum Values (JAMA-Apr.09-B1, B2, B3)

Repeatability Check for GTR-prototype

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	Max. values						
	Tibia-1 (Nm)	Tibia-2 (Nm)	Tibia-3 (Nm)	Tibia-4 (Nm)	Knee-ACL (mm)	Knee-PCL (mm)	Knee-MCL (mm)
JAMA-Apr.09-B1	203.3	263.1	273.8	226.3	4.94	5.35	16.6
JAMA-Apr.09-B2	223.4	280.8	278.2	226.0	4.91	5.20	16.2
JAMA-Apr.09-B3	198.5	271.7	262.6	218.2	4.63	6.12	16.5
Avg.	208.4	271.9	271.5	223.5	4.83	5.56	16.4
St. Dev.	13.21	8.85	8.00	4.61	0.17	0.50	0.20
CV (%)	6.34	3.26	2.95	2.06	3.54	8.94	1.23
Judgement *	Acceptable	Acceptable	Good	Good	Acceptable	Marginal	Good
t-IARV **	318	318	318	318	12.7	12.7	20
St.Dev./t-IARV (%)	4.15	2.78	2.52	1.45	1.35	3.91	1.01
Judgement *	Acceptable	Good	Good	Good	Good	Acceptable	Good

* Injury assessment items and monitoring items were evaluated.

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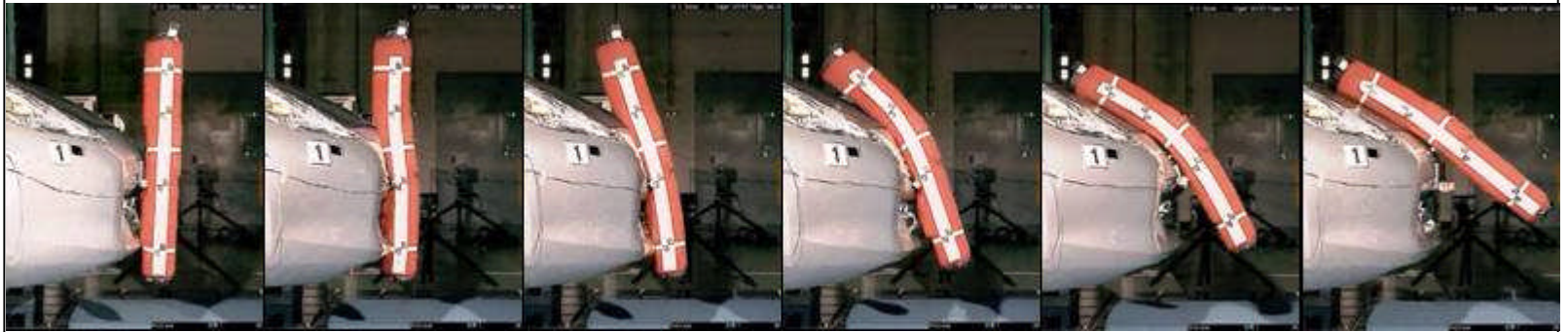
Injury
Assessment
Items

Monitoring
Items

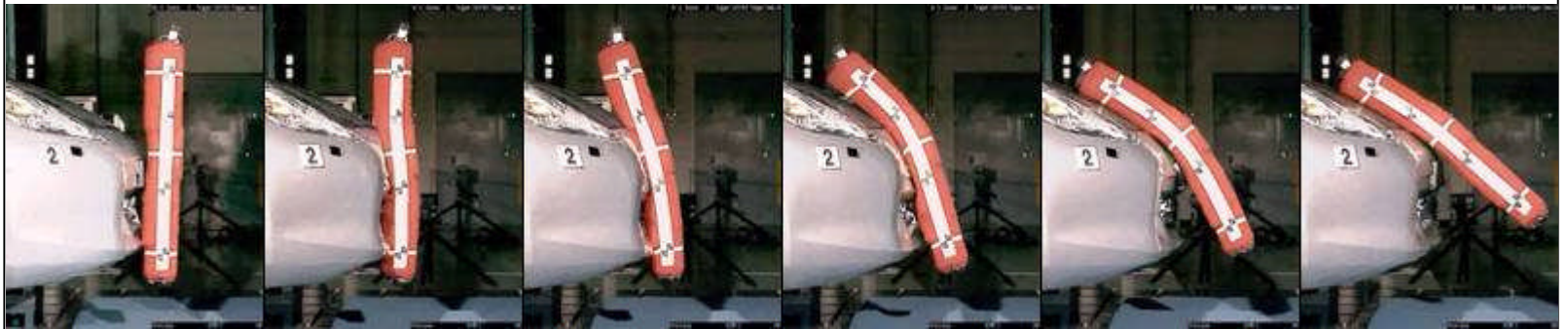
Flex-GTR-prototype JAMA Round Robbing Test Results
(JAMA-May.09-A1, A2, A3)

Flex-GTR-prototype JAMA Round Robbing Test Results Kinematics (JAMA-May09-A1, A2, A3)

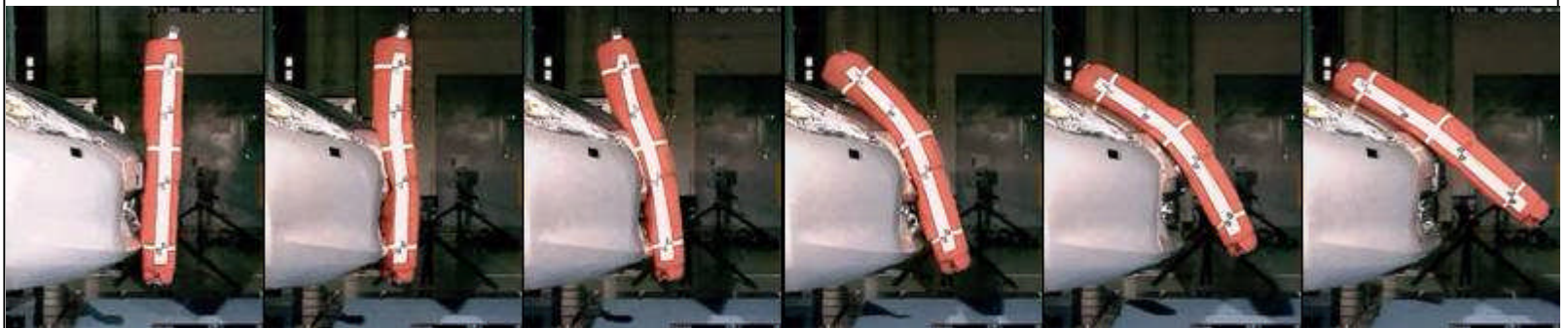
JAMA-May09-A1



JAMA-May09-A2



JAMA-May09-A3



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30 ms

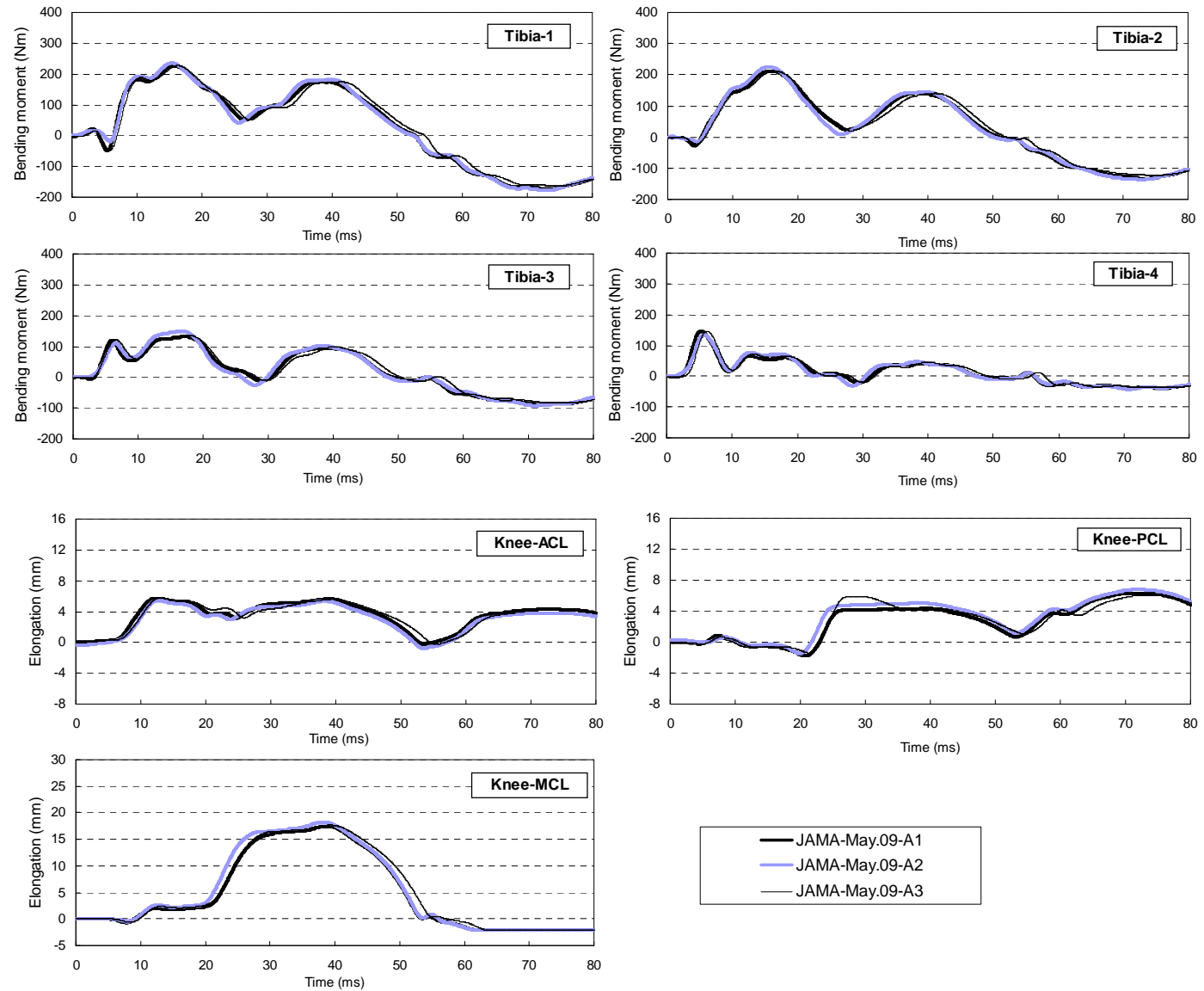
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Flex-GTR-prototype JAMA Round Robbing Test Results

Waveforms (JAMA-May.09-A1, A2, A3)

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- Knee-ACL
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Repeatability Check for GTR-prototype

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 Test Method: Subsystem (Free fright)
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	Max. values						
	Tibia-1 (Nm)	Tibia-2 (Nm)	Tibia-3 (Nm)	Tibia-4 (Nm)	Knee-ACL (mm)	Knee-PCL (mm)	Knee-MCL (mm)
JAMA-May.09-A1	227.4	211.7	131.1	146.8	5.70	6.33	17.4
JAMA-May.09-A2	235.2	224.8	149.2	134.1	5.44	6.76	18.2
JAMA-May.09-A3	227.6	211.6	135.9	146.6	5.81	6.05	17.7
Avg.	230.1	216.0	138.7	142.5	5.65	6.38	17.8
St. Dev.	4.41	7.56	9.36	7.30	0.19	0.36	0.41
CV (%)	1.92	3.50	6.74	5.12	3.36	5.62	2.28
Judgement *	Good	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Good
t-IARV **	318	318	318	318	12.7	12.7	20
St.Dev./t-IARV (%)	1.39	2.38	2.94	2.29	1.50	2.82	2.03
Judgement *	Good	Good	Good	Good	Good	Good	Good

* Injury assessment items and monitoring items were evaluated.

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Injury Assessment Items	Monitoring Items
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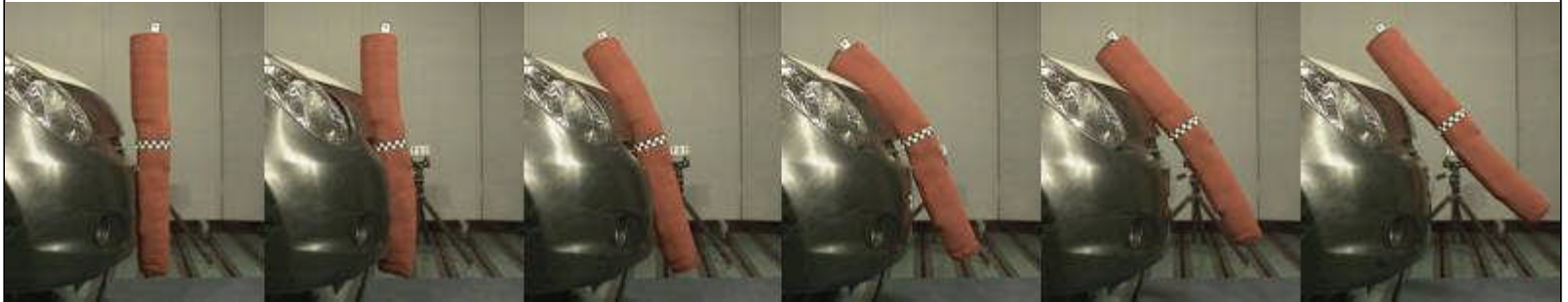
Flex-GTR-prototype JAMA Round Robbing Test Results
(JAMA-May.09-B1, B2, B3)

Flex-GTR-prototype JAMA Round Robbing Test Results Kinematics (JAMA-May.09-B1, B2, B3)

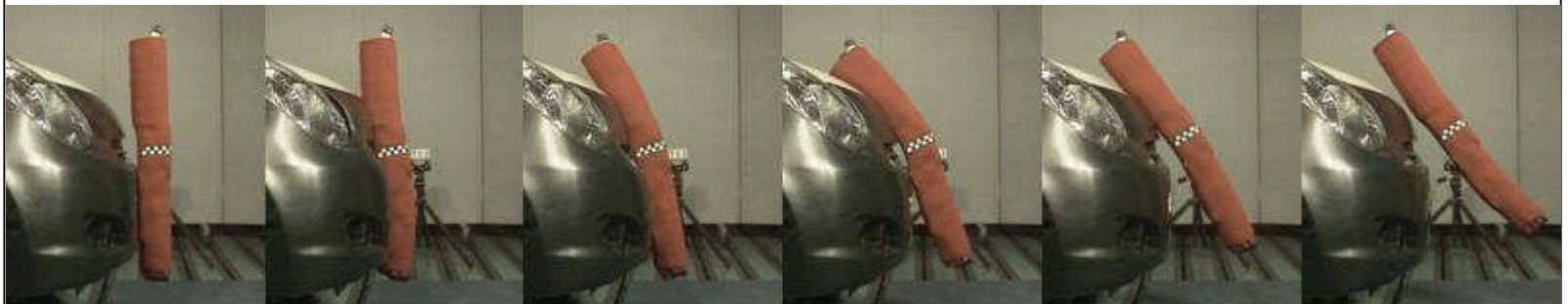
JAMA-May.09-B1



JAMA-May.09-B2



JAMA-May.09-B3



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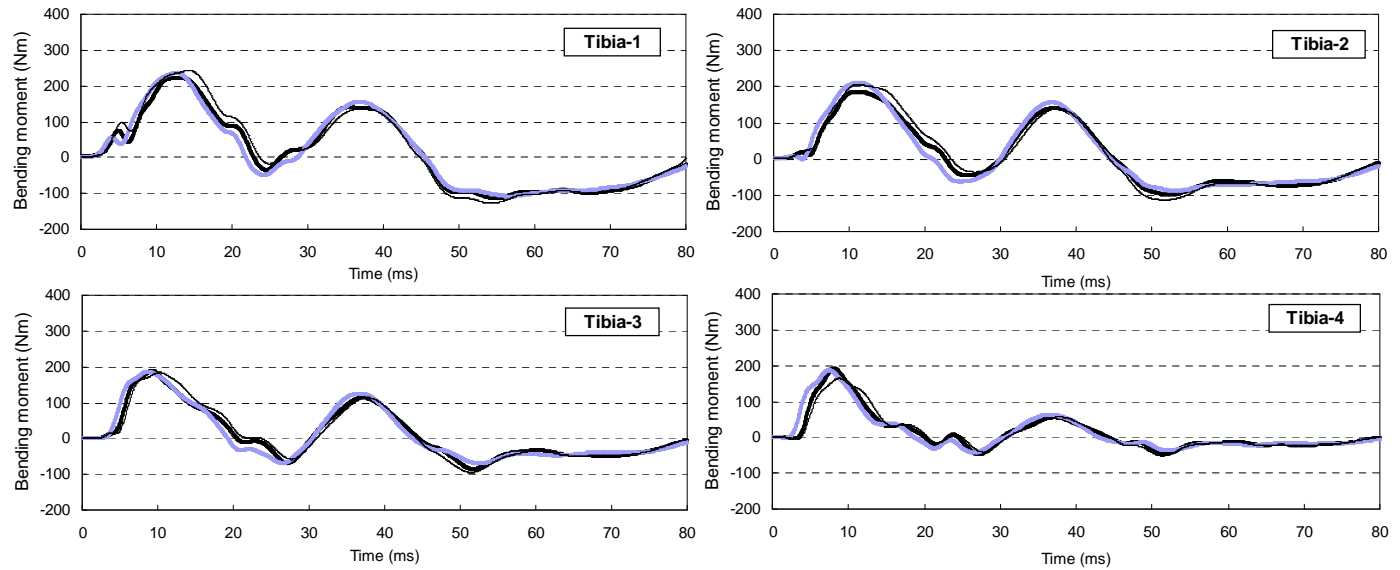
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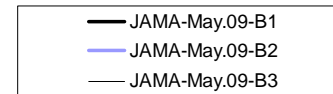
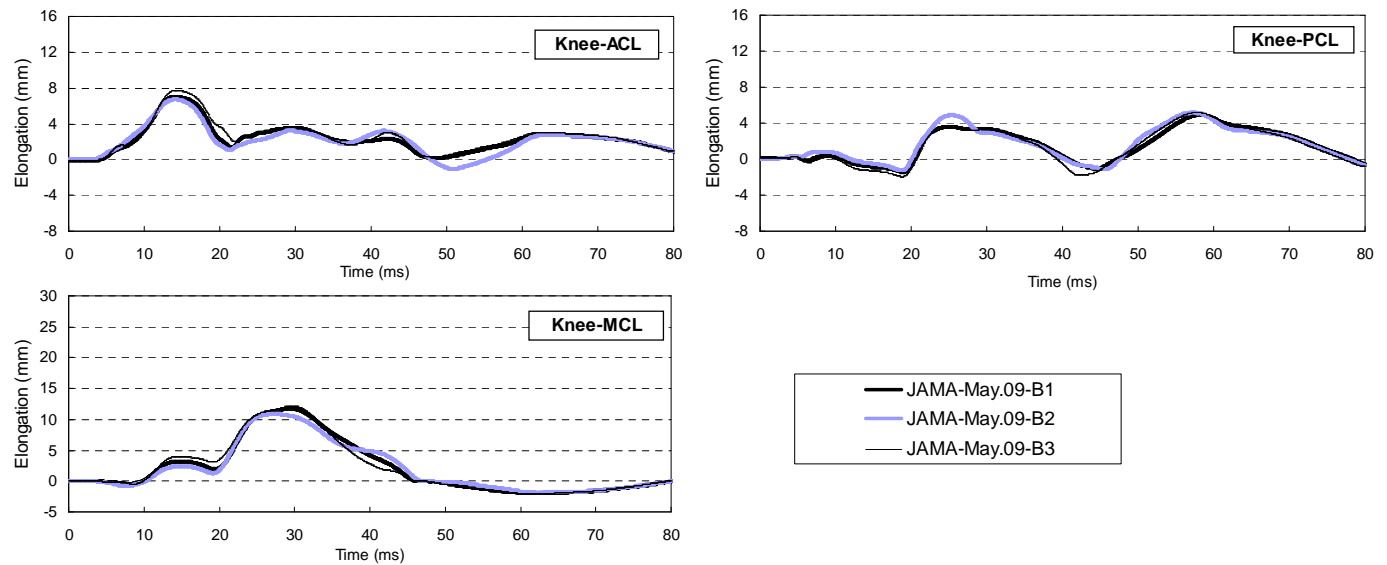
Flex-GTR-prototype JAMA Round Robbing Test Results

Waveforms (JAMA-May.09-B1, B2, B3)

- Tibia-1
- Tibia-2
- Tibia-3
- Tibia-4



- Knee-ACL
- Knee-PCL
- Knee-MCL



Flex-GTR-prototype JAMA Round Robbing Test Results

Maximum Values (JAMA-May.09-B1, B2, B3)

Repeatability Check for GTR-prototype

Impactor: Flex-GTR-prototype (SN03)
 Test Method: Subsystem (Free fright)
 Test Rig: Car

	Max. values						
	Tibia-1 (Nm)	Tibia-2 (Nm)	Tibia-3 (Nm)	Tibia-4 (Nm)	Knee-ACL (mm)	Knee-PCL (mm)	Knee-MCL (mm)
JAMA-May.09-B1	222.7	185.6	189.1	193.0	7.03	4.93	11.8
JAMA-May.09-B2	236.3	212.2	186.9	187.7	6.70	5.15	10.9
JAMA-May.09-B3	243.3	205.8	184.2	164.1	7.73	5.19	12.2
Avg.	234.1	201.2	186.7	181.6	7.13	5.07	11.6
St. Dev.	10.47	13.88	2.45	15.39	0.51	0.15	0.67
CV (%)	4.47	6.90	1.31	8.47	7.19	3.01	5.72
Judgement *	Acceptable	Acceptable	Good	Marginal	Marginal	Good	Acceptable
t-IARV **	318	318	318	318	12.7	12.7	20
St.Dev./t-IARV (%)	3.29	4.37	0.77	4.84	4.04	1.20	3.33
Judgement *	Acceptable	Acceptable	Good	Acceptable	Acceptable	Good	Acceptable

* Injury assessment items and monitoring items were evaluated.

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Injury Assessment Items	Monitoring Items
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Flex-GTR-prototype JAMA Round Robbing Test Results
(JAMA-June.09-A1, A2, A3)

Flex-GTR-prototype JAMA Round Robbing Test Results Kinematics (JAMA-June.09-A1, A2, A3)

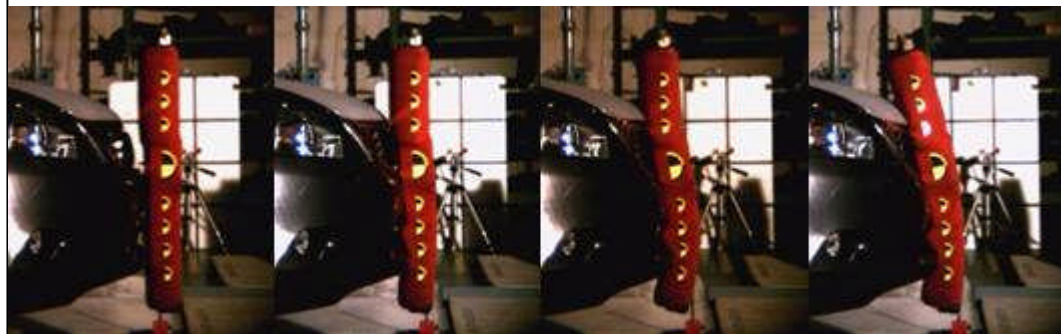
JAMA-June.09-A1



JAMA-June.09-A2



JAMA-June.09-A3



0 ms

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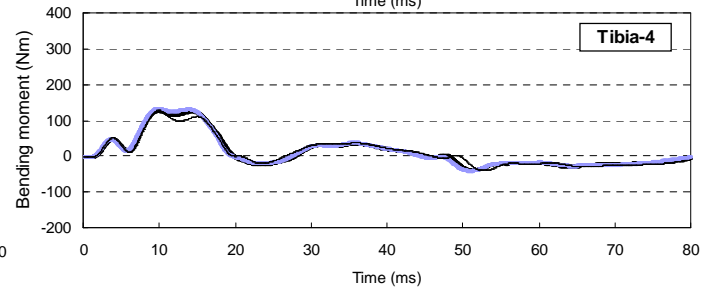
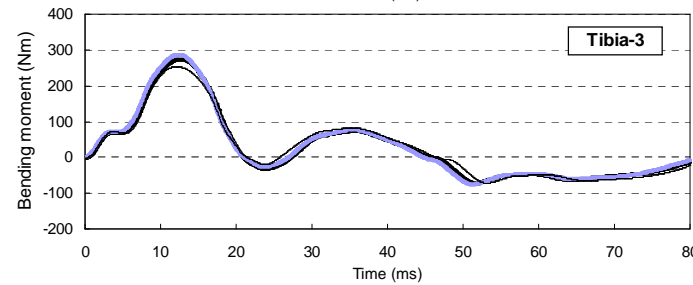
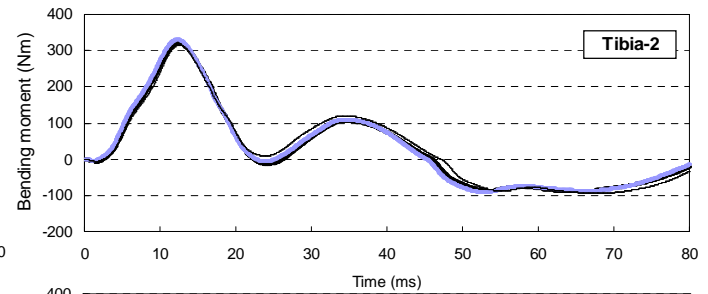
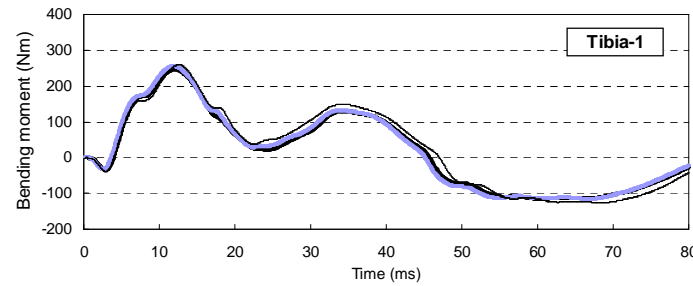
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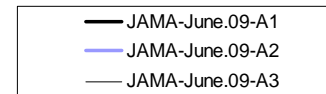
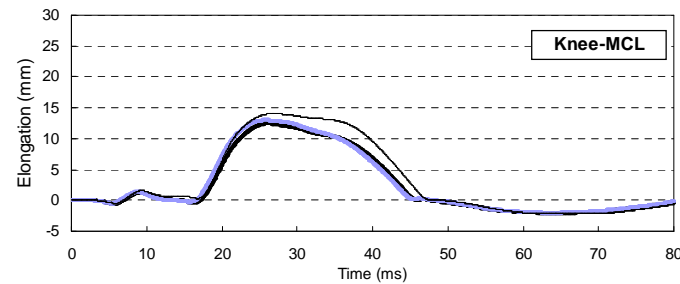
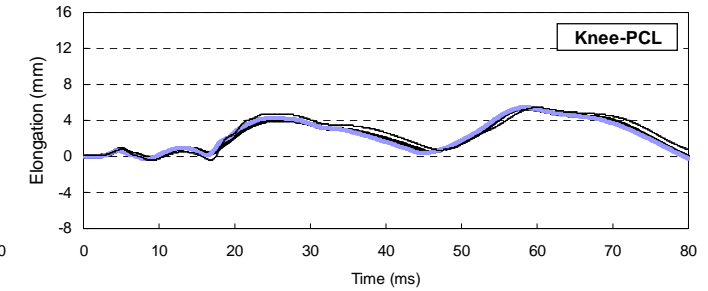
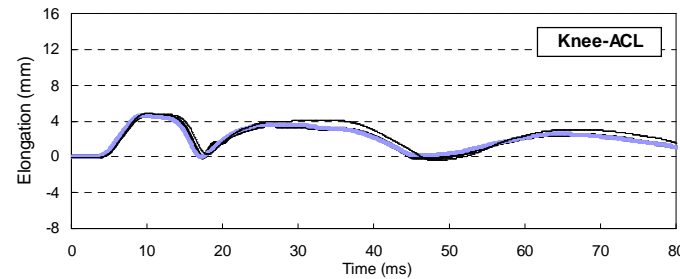
Flex-GTR-prototype JAMA Round Robbing Test Results

Waveforms (JAMA-June.09-A1, A2, A3)

- Tibia-1
- Tibia-2
- Tibia-3
- Tibia-4



- Knee-ACL
- Knee-PCL
- Knee-MCL



Flex-GTR-prototype JAMA Round Robbing Test Results

Maximum Values (JAMA-June.09-A1, A2, A3)

Repeatability Check for GTR-prototype

Impactor: Flex-GTR-prototype (SN03)
 Test Method: Subsystem (Free flight)
 Test Rig: Car

	Max. values						
	Tibia-1 (Nm)	Tibia-2 (Nm)	Tibia-3 (Nm)	Tibia-4 (Nm)	Knee-ACL (mm)	Knee-PCL (mm)	Knee-MCL (mm)
JAMA-June.09-A1	247.1	320.1	274.2	127.1	4.62	5.38	12.4
JAMA-June.09-A2	255.5	330.0	287.3	132.1	4.66	5.45	13.0
JAMA-June.09-A3	259.4	314.4	253.3	127.7	4.84	5.46	14.0
Avg.	254.0	321.5	271.6	129.0	4.70	5.47	13.1
St. Dev.	6.29	7.89	17.15	2.73	0.10	0.06	0.81
CV (%)	2.47	2.46	6.31	2.12	2.13	1.06	6.15
Judgement *	Good	Good	Acceptable	Good	Good	Good	Acceptable
t-IARV **	318	318	318	318	12.7	12.7	20
St.Dev./t-IARV (%)	1.98	2.48	5.39	0.86	0.79	0.45	4.04
Judgement *	Good	Good	Acceptable	Good	Good	Good	Acceptable

* Injury assessment items and monitoring items were evaluated.

** t-IARV: Tentative Injury Assessment Reference Values

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Injury
Assessment
Items

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(JAMA-June.09-B1, B2, B3)

Flex-GTR-prototype JAMA Round Robbing Test Results Kinematics (JAMA-June.09-B1, B2, B3)

JAMA-June.09-B1



JAMA-June.09-B2



JAMA-June.09-B3



0 ms

10 ms

20 ms

30 ms

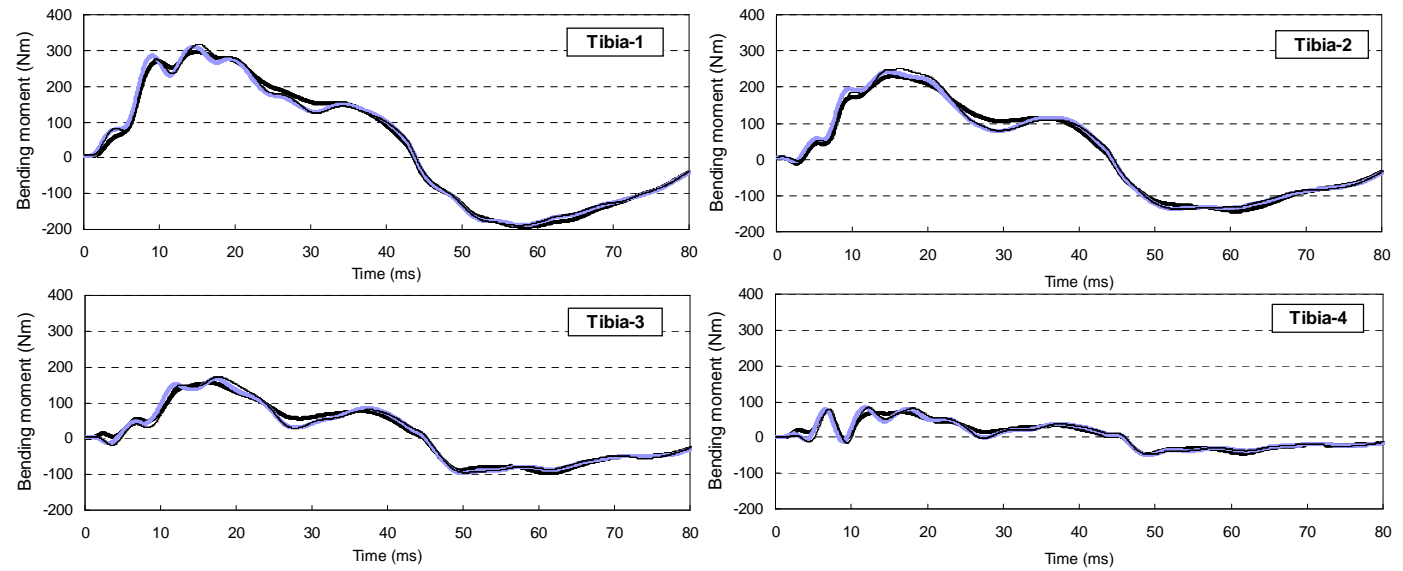
40 ms

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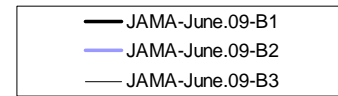
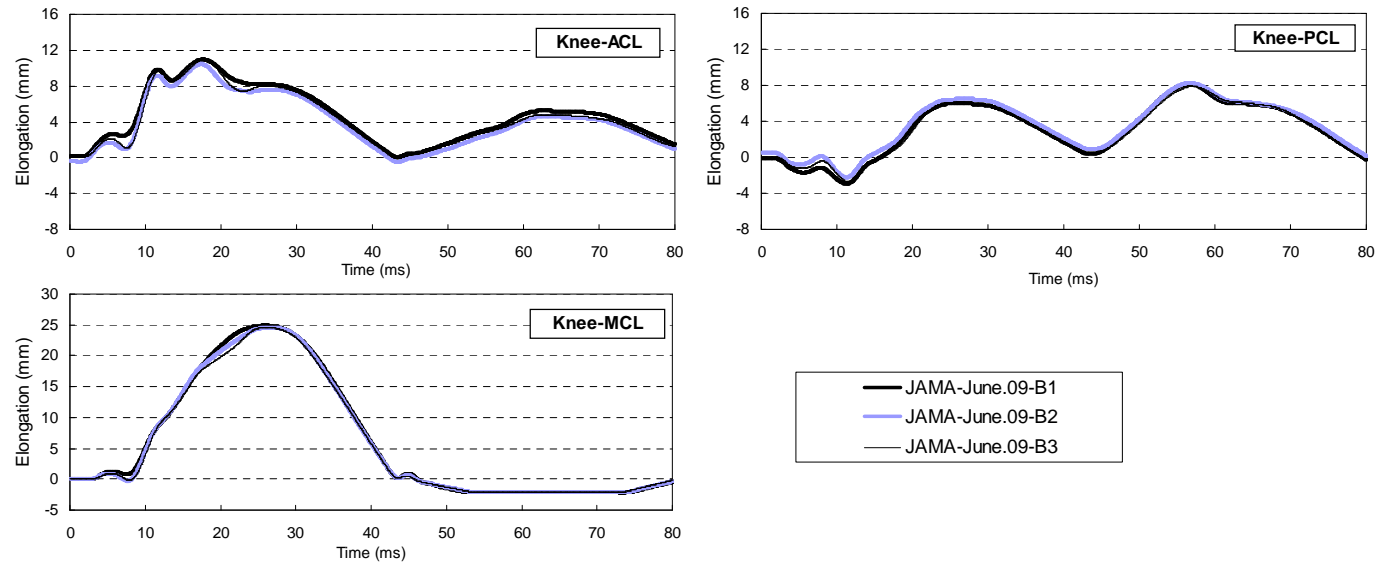
Flex-GTR-prototype JAMA Round Robbing Test Results

Waveforms (JAMA-June.09-B1, B2, B3)

- Tibia-1
- Tibia-2
- Tibia-3
- Tibia-4



- Knee-ACL
- Knee-PCL
- Knee-MCL



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Maximum Values (JAMA-June.09-B1, B2, B3)

Repeatability Check for GTR-prototype

Impactor: Flex-GTR-prototype (SN03)

Test Method: Subsystem (Free flight)

Test Rig: Car

	Max. values						
	Tibia-1 (Nm)	Tibia-2 (Nm)	Tibia-3 (Nm)	Tibia-4 (Nm)	Knee-ACL (mm)	Knee-PCL (mm)	Knee-MCL (mm)
JAMA-June.09-B1	295.5	229.9	154.8	73.8	10.98	8.11	24.9
JAMA-June.09-B2	309.8	242.9	167.6	83.4	10.46	8.25	24.6
JAMA-June.09-B3	317.4	249.7	173.0	83.6	10.97	7.85	24.6
Avg.	307.6	240.8	165.1	80.3	10.83	8.07	24.7
St. Dev.	11.12	10.06	9.35	5.60	0.29	0.15	0.17
CV (%)	3.62	4.18	5.66	6.98	2.66	1.89	0.70
Judgement *	Acceptable	Acceptable	Acceptable	Acceptable	Good	Good	Good
t-IARV **	318	318	318	318	12.7	12.7	20
St.Dev./t-IARV (%)	3.50	3.16	2.94	1.76	2.27	1.20	0.87
Judgement *	Acceptable	Acceptable	Good	Good	Good	Good	Good

* Injury assessment items and monitoring items were evaluated.

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(JAMA-July.09-A1, A2, A3)

Flex-GTR-prototype JAMA Round Robbing Test Results Kinematics (JAMA-July.09-A1, A2, A3)

JAMA-July.09-A1



JAMA-July.09-A2



JAMA-July.09-A3



0 ms

10 ms

20 ms

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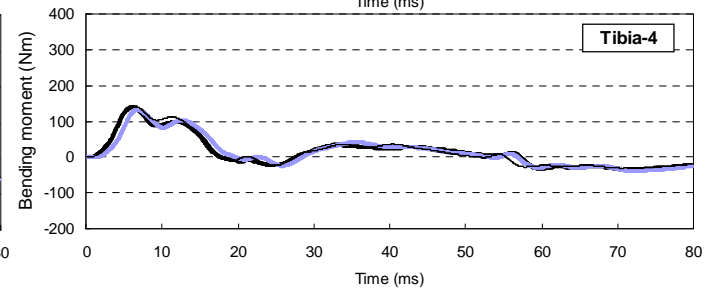
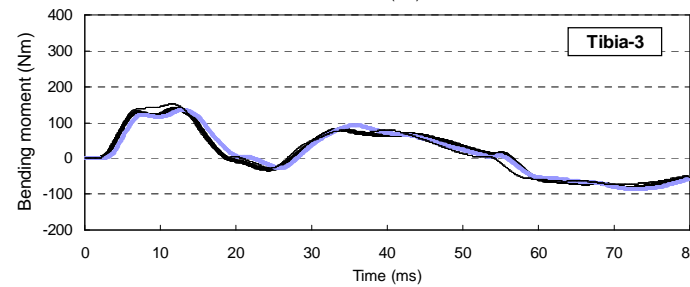
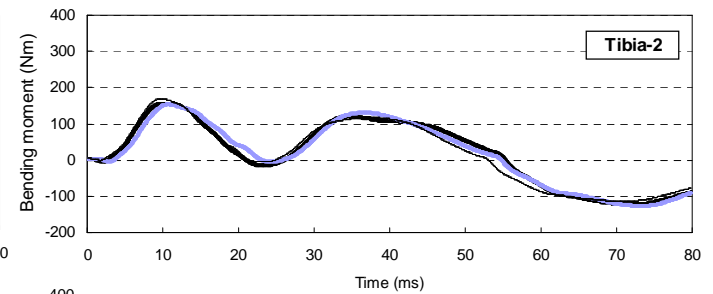
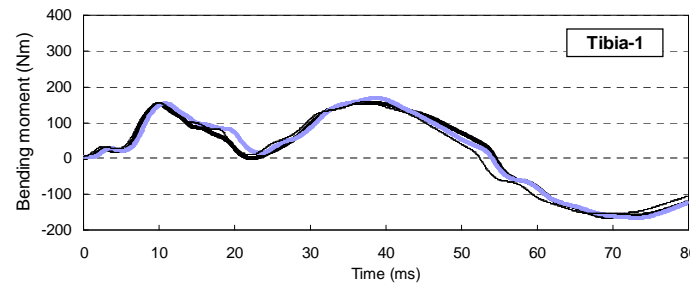
40 ms

50 ms

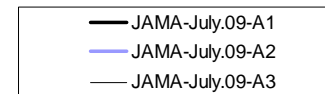
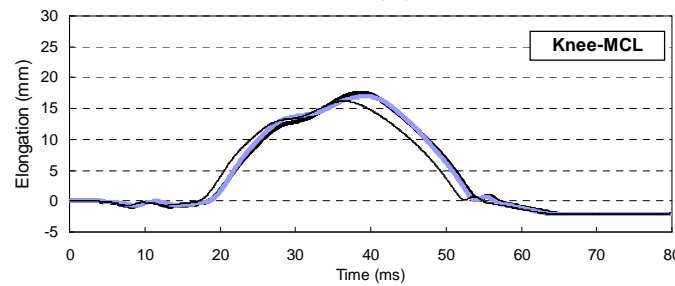
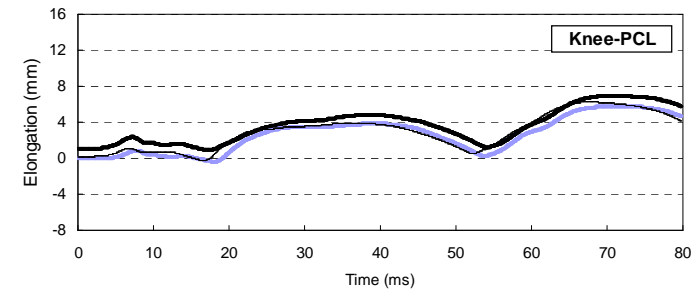
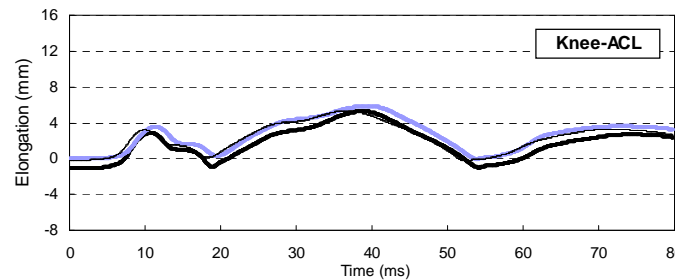
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Waveforms (JAMA-July.09-A1, A2, A3)

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 Test Rig: Car

	Max. values						
	Tibia-1 (Nm)	Tibia-2 (Nm)	Tibia-3 (Nm)	Tibia-4 (Nm)	Knee-ACL (mm)	Knee-PCL (mm)	Knee-MCL (mm)
JAMA-July.09-A1	156.0	156.3	139.0	138.1	5.27	6.98	17.6
JAMA-July.09-A2	168.8	153.5	136.3	132.1	5.86	5.80	17.0
JAMA-July.09-A3	158.2	168.6	151.5	142.5	5.32	6.24	16.2
Avg.	161.0	159.5	142.3	137.6	5.50	6.33	16.9
St. Dev.	6.84	8.03	8.11	5.22	0.35	0.61	0.70
CV (%)	4.25	5.04	5.70	3.79	6.30	9.65	4.15
Judgement *	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Marginal	Acceptable
t-IARV **	318	318	318	318	12.7	12.7	20
St.Dev./t-IARV (%)	2.15	2.53	2.55	1.64	2.73	4.81	3.51
Judgement *	Good	Good	Good	Good	Good	Acceptable	Good

* Injury assessment items and monitoring items were evaluated.

** t-IARV: Tentative Injury Assessment Reference Values

Judgements

Good: < 3%

Acceptable: 3% ≤ and < 7%

Marginal: 7% ≤ and < 10%

Not Acceptable: > 10%

Injury
Assessment
Items

Monitoring
Items

Flex-GTR-prototype JAMA Round Robbing Test Results
(JAMA-July.09-B1, B2, B3)

Flex-GTR-prototype JAMA Round Robbing Test Results Kinematics (JAMA-July.09-B1, B2, B3)

JAMA-July.09-B1



JAMA-July.09-B2



JAMA-July.09-B3



0 ms

10 ms

20 ms

30 ms

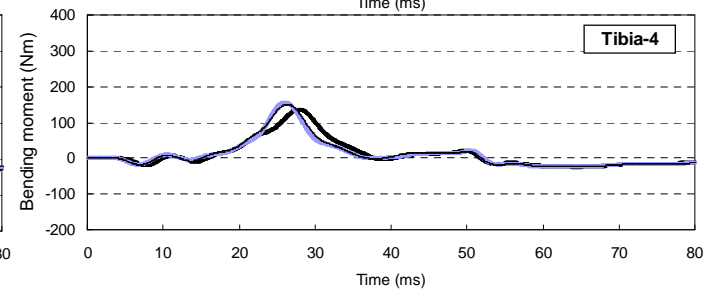
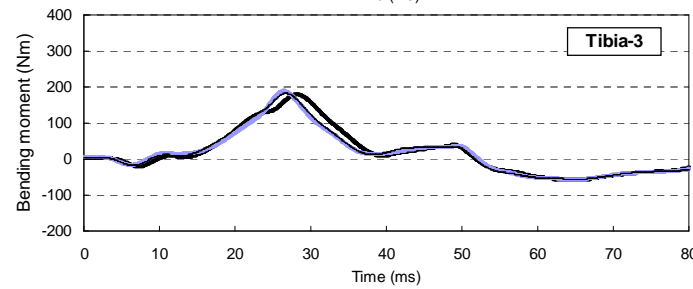
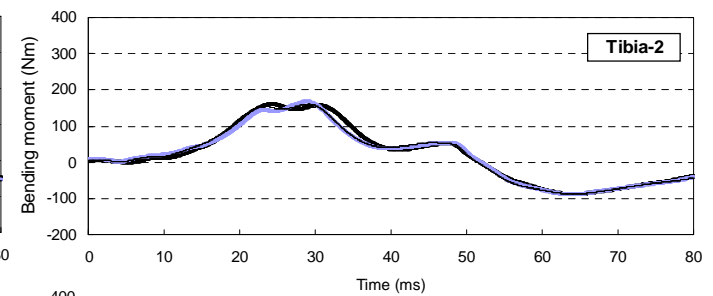
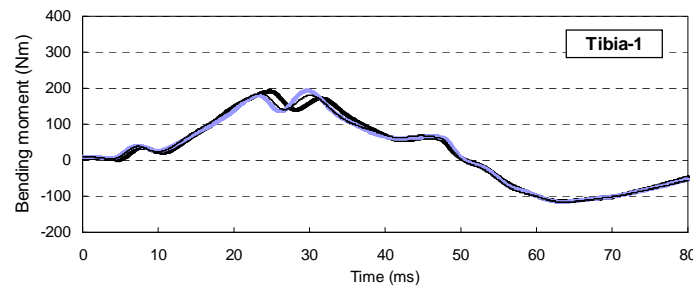
40 ms

50 ms

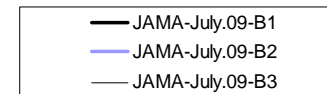
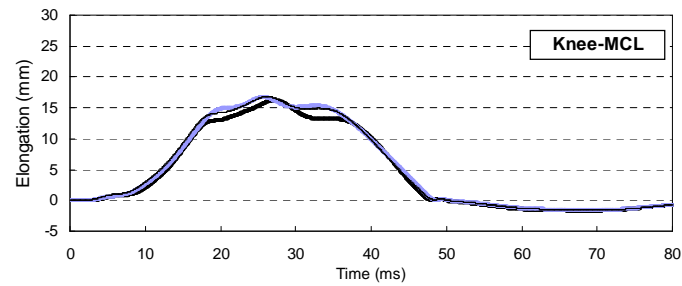
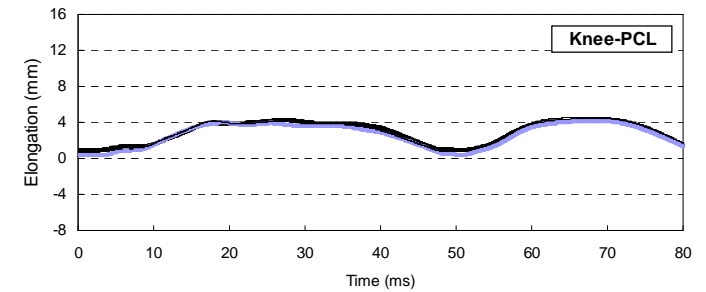
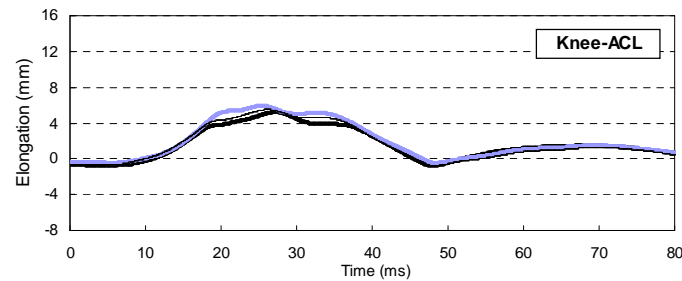
Flex-GTR-prototype JAMA Round Robbing Test Results

Waveforms (JAMA-July.09-B1, B2, B3)

- Tibia-1
- Tibia-2
- Tibia-3
- Tibia-4



- Knee-ACL
- Knee-PCL
- Knee-MCL



Flex-GTR-prototype JAMA Round Robbing Test Results

Maximum Values (JAMA-July.09-B1, B2, B3)

Repeatability Check for GTR-prototype

Impactor: Flex-GTR-prototype (SN03)
 Test Method: Subsystem (Free flight)
 Test Rig: Car

	Max. values						
	Tibia-1 (Nm)	Tibia-2 (Nm)	Tibia-3 (Nm)	Tibia-4 (Nm)	Knee-ACL (mm)	Knee-PCL (mm)	Knee-MCL (mm)
JAMA-July.09-B1	191.7	161.0	179.3	136.4	5.23	4.34	16.2
JAMA-July.09-B2	193.1	167.7	188.7	156.2	5.96	4.18	16.8
JAMA-July.09-B3	185.5	159.7	182.6	149.7	5.50	4.59	16.8
Avg.	190.1	162.8	183.5	147.4	5.57	4.37	16.6
St. Dev.	4.04	4.29	4.77	10.09	0.40	0.21	0.35
CV (%)	2.13	2.64	2.60	6.85	7.26	4.77	2.09
Judgement *	Good	Good	Good	Acceptable	Marginal	Acceptable	Good
t-IARV **	318	318	318	318	12.7	12.7	20
St.Dev./t-IARV (%)	1.27	1.35	1.50	3.17	3.18	1.64	1.73
Judgement *	Good	Good	Good	Acceptable	Acceptable	Good	Good

* Injury assessment items and monitoring items were evaluated.

** t-IARV: Tentative Injury Assessment Reference Values

Judgements

Good: < 3%

Acceptable: 3% ≤ and < 7%

Marginal: 7% ≤ and < 10%

Not Acceptable: > 10%

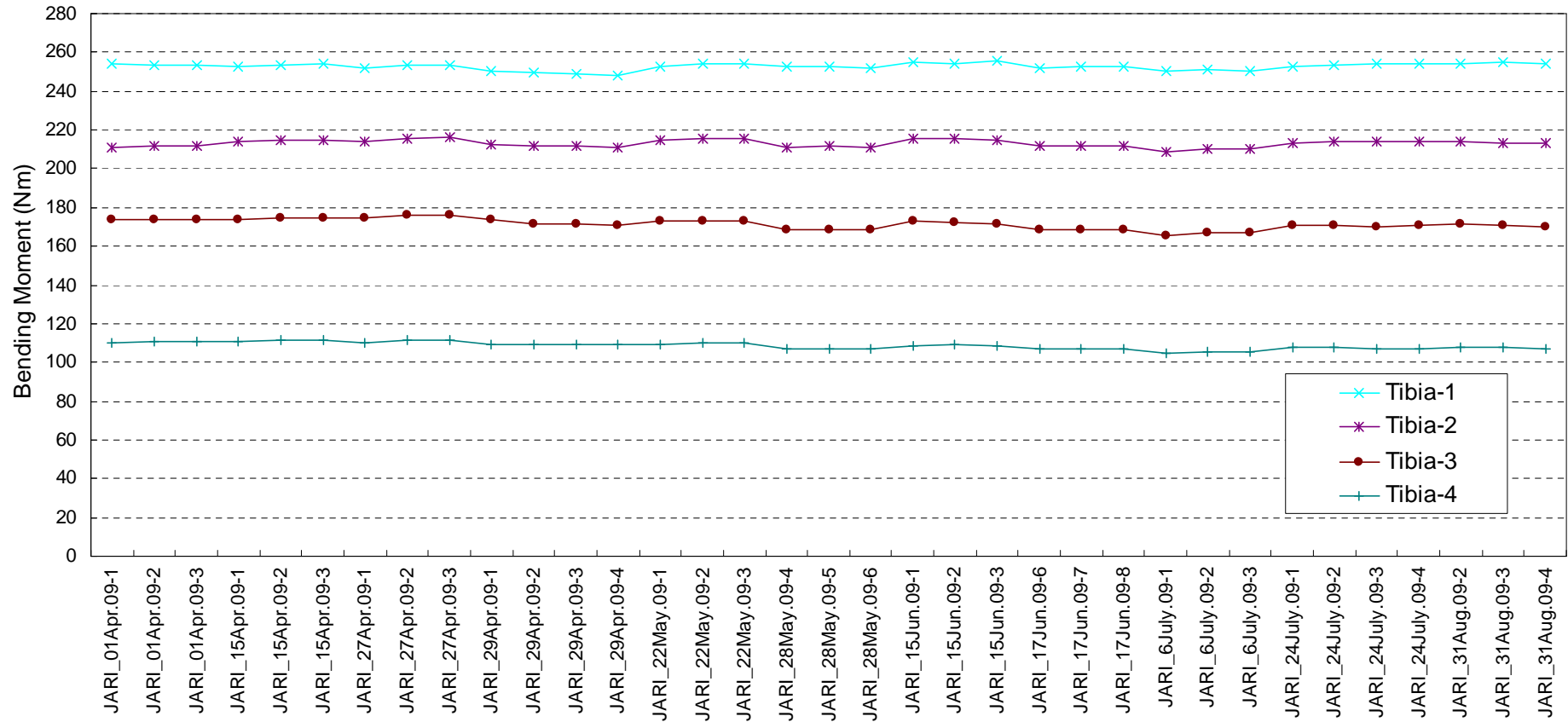
Injury
Assessment
Items

Monitoring
Items

Flex-GTR-prototype Pendulum Test Results
During the JAMA Round Robbing Test

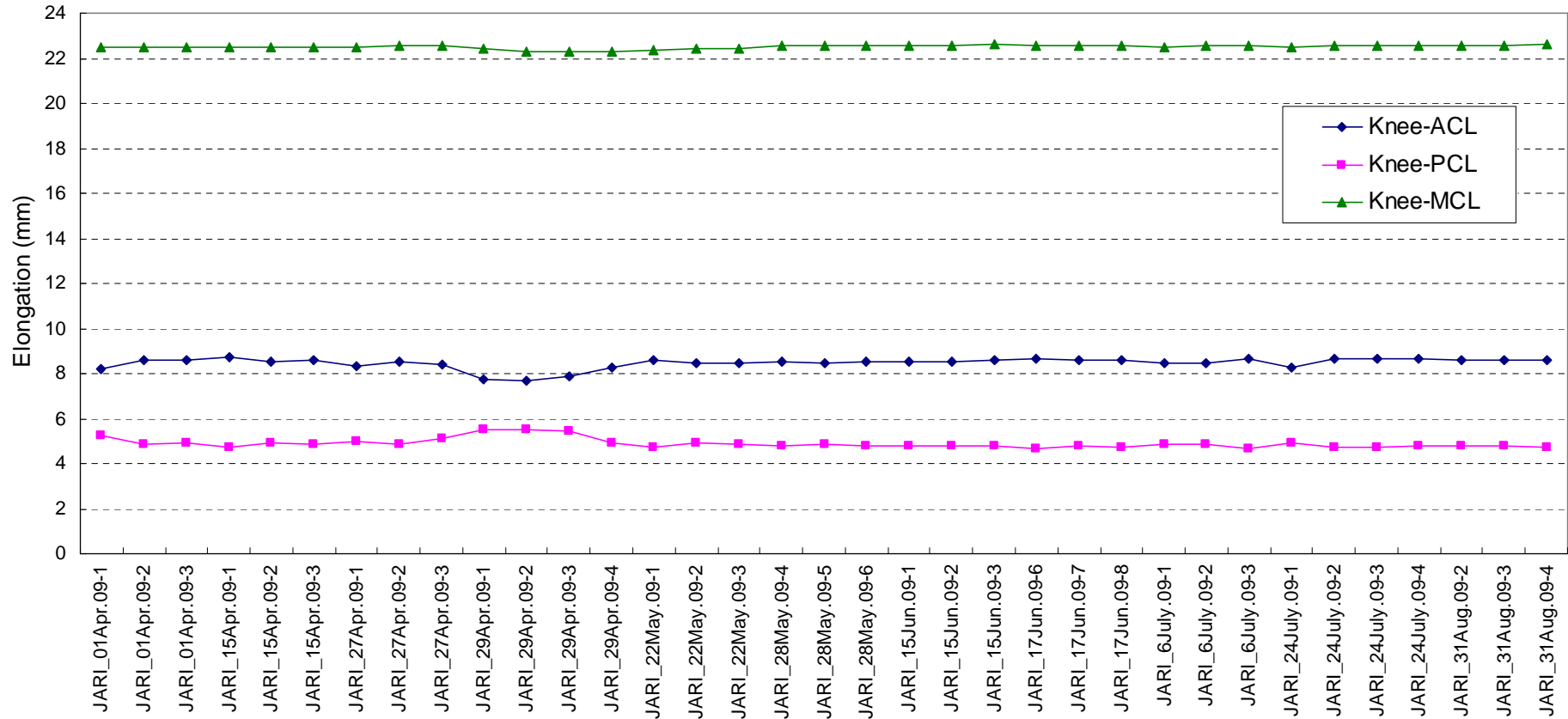
Flex-GTR-prototype Pendulum Test Results During the JAMA Round Robbing Tests

Maximum Values, Graph, Tibia



Flex-GTR-prototype Pendulum Test Results During the JAMA Round Robbing Tests

Maximum Values, Graph, Knee (ACL, PCL, MCL)



Flex-GTR-prototype Pendulum Test Results During the JAMA Round Robbing Tests

Maximum Values, Table

	Max. values						
	Tibia-1 (Nm)	Tibia-2 (Nm)	Tibia-3 (Nm)	Tibia-4 (Nm)	Knee-ACL (mm)	Knee-PCL (mm)	Knee-MCL (mm)
JARI_01Apr.09-1	254.1	210.9	173.8	110.0	8.20	5.25	22.5
JARI_01Apr.09-2	253.8	211.6	173.9	110.7	8.61	4.87	22.5
JARI_01Apr.09-3	253.7	211.7	174.1	111.0	8.57	4.90	22.5
JARI_15Apr.09-1	252.8	213.8	173.7	110.9	8.74	4.73	22.5
JARI_15Apr.09-2	253.6	215.1	174.3	111.6	8.55	4.93	22.5
JARI_15Apr.09-3	253.9	215.1	174.3	111.8	8.60	4.88	22.5
JARI_27Apr.09-1	251.9	213.7	174.4	110.3	8.32	4.97	22.5
JARI_27Apr.09-2	253.6	215.8	175.8	111.6	8.51	4.88	22.6
JARI_27Apr.09-3	253.7	216.2	175.9	111.9	8.37	5.11	22.6
JARI_29Apr.09-1	250.7	212.6	173.4	109.5	7.72	5.54	22.4
JARI_29Apr.09-2	249.6	211.5	171.6	109.2	7.70	5.53	22.3
JARI_29Apr.09-3	248.8	211.3	171.1	109.1	7.86	5.43	22.3
JARI_29Apr.09-4	248.1	211.2	171.0	109.0	8.27	4.93	22.3
JARI_22May.09-1	253.0	214.8	172.8	109.6	8.57	4.71	22.4
JARI_22May.09-2	254.5	215.8	173.4	110.2	8.45	4.89	22.4
JARI_22May.09-3	254.0	215.5	173.0	110.0	8.46	4.88	22.4
JARI_28May.09-4	252.9	211.3	168.7	106.8	8.56	4.78	22.5
JARI_28May.09-5	252.4	211.4	168.3	107.3	8.49	4.86	22.5
JARI_28May.09-6	251.6	211.1	168.1	107.0	8.55	4.79	22.6
JARI_15Jun.09-1	254.8	215.5	172.7	108.7	8.52	4.80	22.5
JARI_15Jun.09-2	254.4	215.4	172.4	109.2	8.54	4.81	22.6
JARI_15Jun.09-3	255.5	214.8	171.8	108.6	8.56	4.79	22.6
JARI_17Jun.09-6	252.1	211.5	168.3	106.8	8.67	4.66	22.5
JARI_17Jun.09-7	252.4	211.6	168.4	106.6	8.57	4.77	22.6
JARI_17Jun.09-8	252.5	212.0	168.7	106.8	8.62	4.73	22.6
JARI_6July.09-1	250.0	208.8	165.7	104.9	8.43	4.82	22.5
JARI_6July.09-2	250.9	209.8	166.8	105.4	8.47	4.86	22.6
JARI_6July.09-3	250.5	210.1	166.8	105.6	8.65	4.68	22.6
JARI_24July.09-1	252.8	213.1	170.7	107.5	8.25	4.93	22.5
JARI_24July.09-2	253.7	214.0	170.9	107.9	8.64	4.70	22.6
JARI_24July.09-3	254.3	213.9	170.3	107.2	8.66	4.74	22.6
JARI_24July.09-4	253.9	214.1	170.6	107.1	8.64	4.78	22.6
JARI_31Aug.09-2	254.4	214.1	171.4	107.9	8.58	4.77	22.6
JARI_31Aug.09-3	254.7	213.5	170.7	107.5	8.59	4.76	22.6
JARI_31Aug.09-4	254.6	212.9	169.9	107.0	8.61	4.75	22.6
Avg.	252.8	213.0	171.4	108.6	8.46	4.89	22.5
St. Dev.	1.80	1.97	2.65	1.94	0.25	0.22	0.09
CV (%)	0.71	0.92	1.54	1.79	2.96	4.52	0.40
Judgement *	Good	Good	Good	Good	Good	Acceptable	Good
t-IARV **	318	318	318	318	12.7	12.7	20
St.Dev./t-IARV (%)	0.57	0.62	0.83	0.61	1.97	1.74	0.45
Judgement *	Good	Good	Good	Good	Good	Good	Good

* Injury assessment items and monitoring items were evaluated.

** t-IARV: Tentative Injury Assessment Reference Values

Judgements

Good: < 3%
Acceptable: 3% ≤ and < 7%
Marginal: 7% ≤ and < 10%
Not Acceptable: > 10%

Injury
Assessment
Items

Monitoring
Items

Conclusions

- [Eight JAMA member companies](#) have [conducted their round robin tests](#), and [findings from their tests were as follows](#),

- [Repeatability](#) of the Flex-GTR-prototype [during the car tests](#) is as follows,

During Car Test

CV	Injury Assessment Items			Monitoring Items		
	Good	Acceptable	Marginal	Good	Acceptable	Marginal
JAMA-April.09-A	4	1	0	0	2	0
JAMA-April.09-B	3	2	0	0	1	1
JAMA-May.09-A	2	3	0	0	2	0
JAMA-May.09-B	1	3	1	1	0	1
JAMA-June.09-A	3	2	0	2	0	0
JAMA-June.09-B	1	4	0	2	0	0
JAMA-July.09-A	0	5	0	0	1	1
JAMA-July.09-B	4	1	0	0	1	1
total	18	21	1	5	7	4
	45%	53%	3%	31%	44%	25%

St.Dev./t-IARV	Injury Assessment Items			Monitoring Items		
	Good	Acceptable	Marginal	Good	Acceptable	Marginal
JAMA-April.09-A	5	0	0	2	0	0
JAMA-April.09-B	4	1	0	1	1	0
JAMA-May.09-A	5	0	0	2	0	0
JAMA-May.09-B	1	4	0	1	1	0
JAMA-June.09-A	3	2	0	2	0	0
JAMA-June.09-B	3	2	0	2	0	0
JAMA-July.09-A	5	0	0	1	1	0
JAMA-July.09-B	4	1	0	1	1	0
total	30	10	0	12	4	0
	75%	25%	0%	75%	25%	0%

Conclusions, contd.

- Repeatability of the Flex-GTR-prototype during the pendulum tests is as follows,

During Pendulum Test

CV	Injury Assessment Items			Monitoring Items		
	Good	Acceptable	Marginal	Good	Acceptable	Marginal
JAMA from April.09-A to July.09-B	5	0	0	1	1	0
total	5	0	0	1	1	0
	100%	0%	0%	50%	50%	0%

St.Dev./t-IARV	Injury Assessment Items			Monitoring Items		
	Good	Acceptable	Marginal	Good	Acceptable	Marginal
JAMA from April.09-A to July.09-B	5	0	0	2	0	0
total	5	0	0	2	0	0
	100%	0%	0%	100%	0%	0%

- Durability of the Flex-GTR-prototype: No serious damages occurred.
- Usability of the Flex-GTR-prototype: No serious issues occurred.

JAMA Opinion

- Based on the JAMA Round robbing Test, JAMA supports to use the Flex-GTR-prototype for the gtr 9.