

Road vehicles - Multimedia data exchange format for impact tests

Véhicules routiers — Format d'échange de données multimédia pour les essais de choc

Related electronic document C

Figures

— Version 1.6.2p1 —

Remark for version 2.x release:

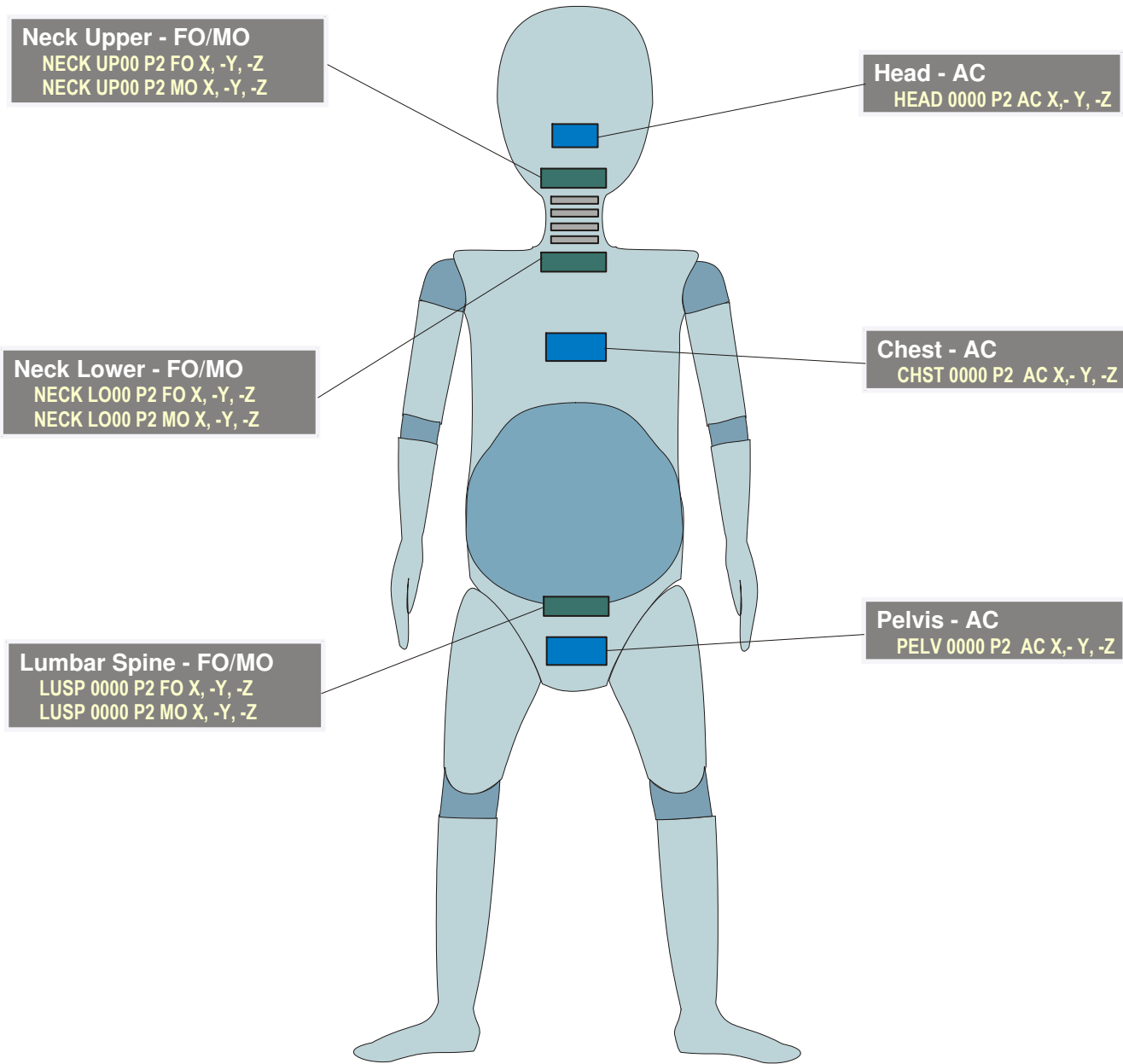
All figures comply to the latest version 1.x release .

Figures are serviced and updated in parallel for both major versions. File name references will be identical to version 1.

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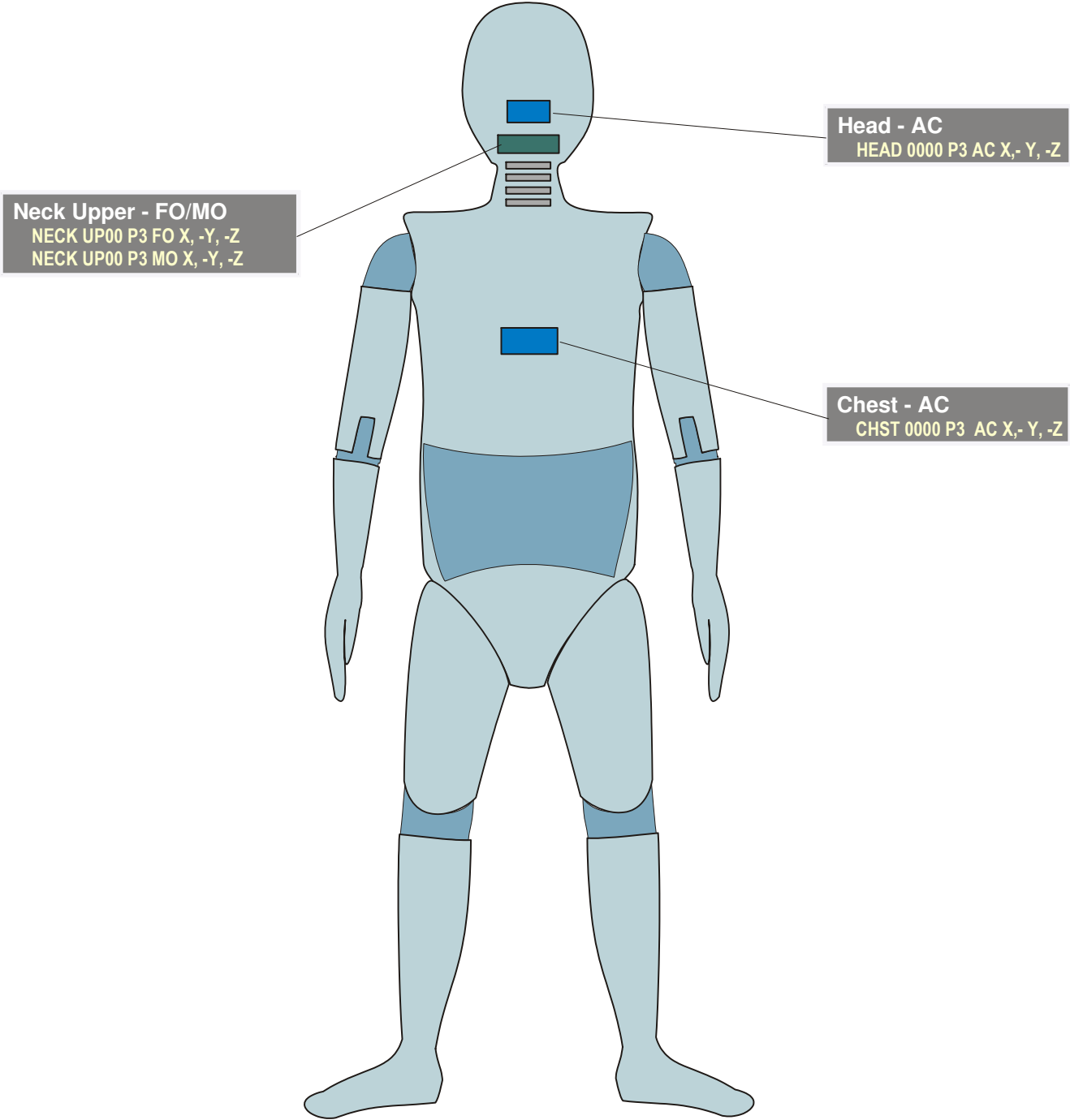
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OTHER	Chest Deflection Measurement	1.6.2	Chest Deflection Coding for different dummy types



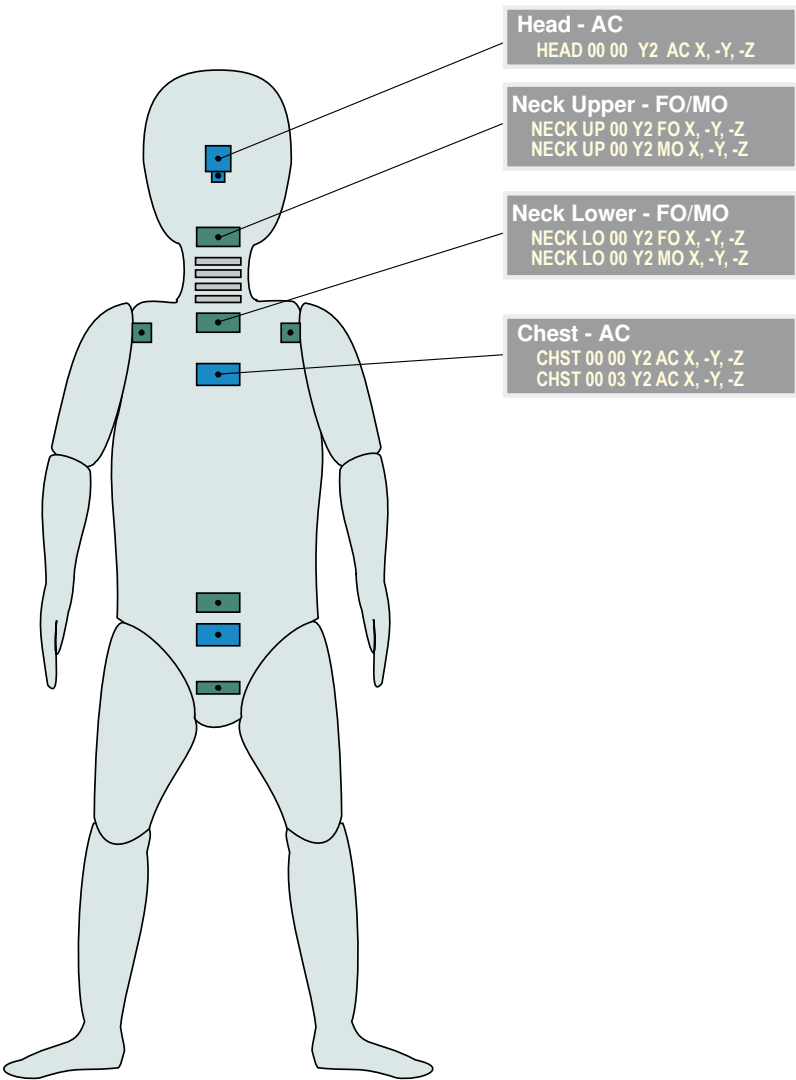
P3 TNO P 3 year old

Valid since Version 1.1





ISO/TS 13499 – RED C : 2010(E)
Y2, CRABI 12 Month Old Infant Dummy
Standard Instrumentation
2011-12-20

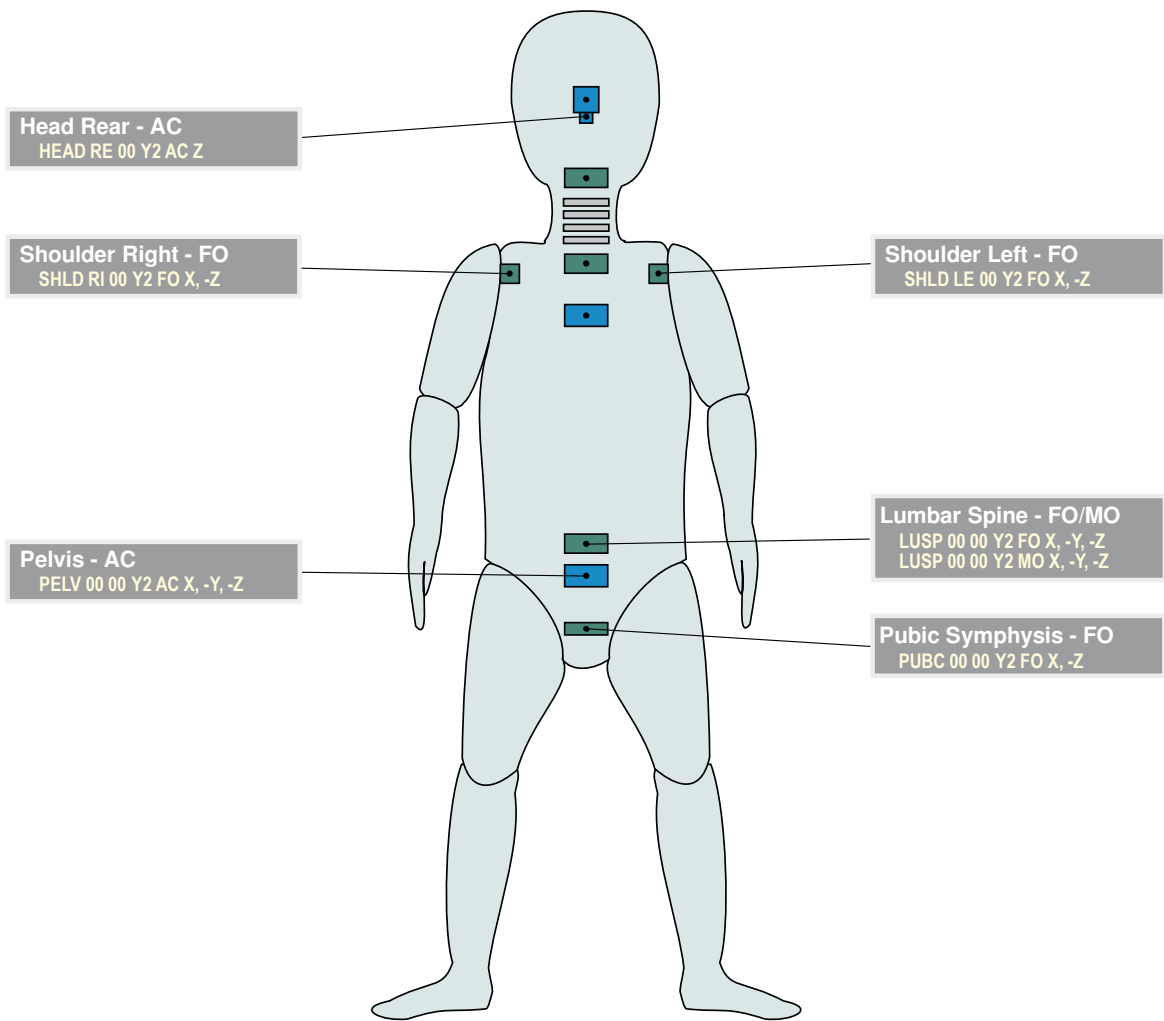


Y2 CRABI 12 month old (2)

Valid since Version 1.6

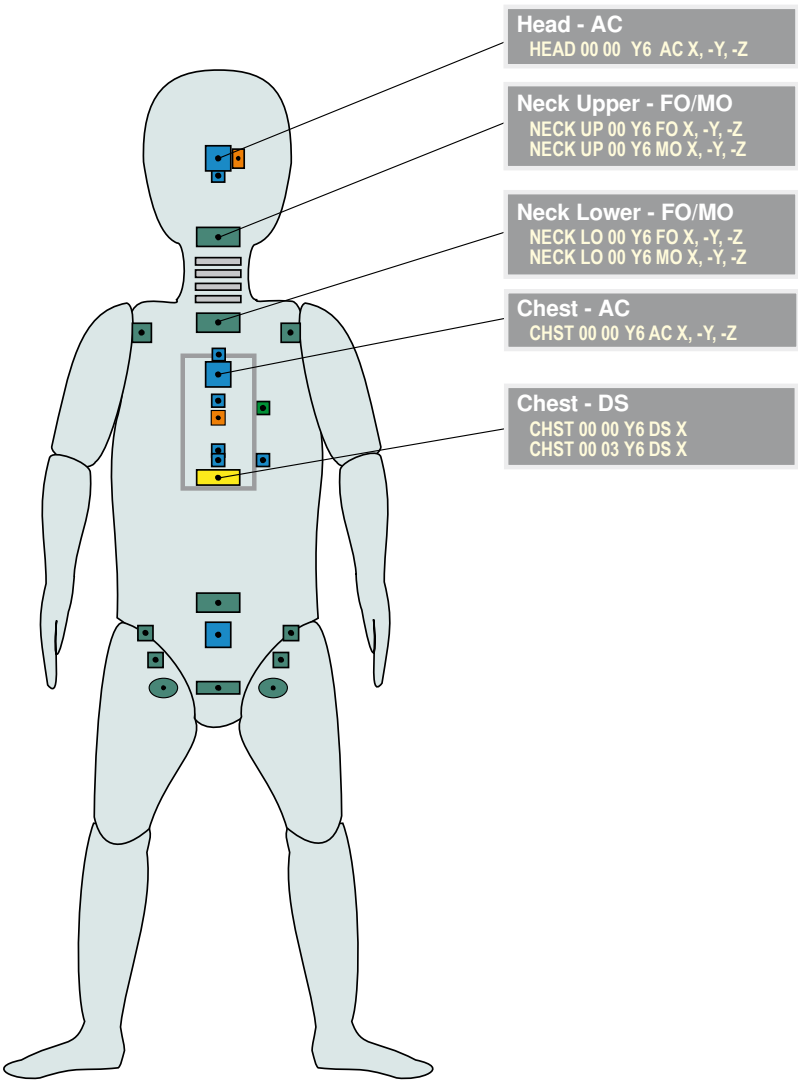


ISO/TS 13499 – RED C : 2010(E)
Y2, CRABI 12 Month Old Infant Dummy
Additional Instrumentation
2011-12-20





ISO/TS 13499 – RED C : 2010(E)
Y6, Hybrid III 3 Year Old Child Dummy
Standard Instrumentation
2013-07-10

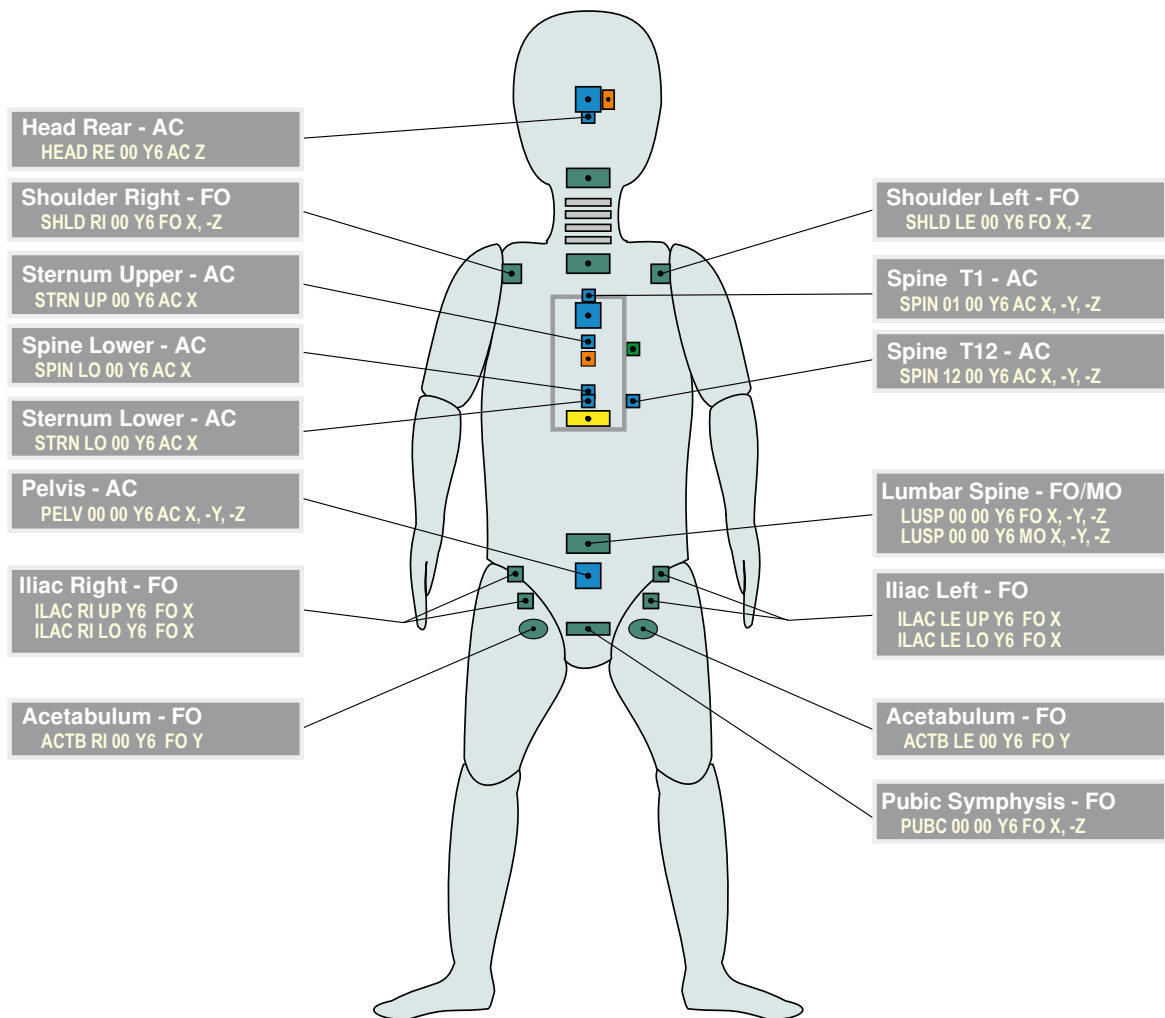


Y6 H III - 3 year old (2)

Valid since Version 1.6.1
NPRM Level "A"

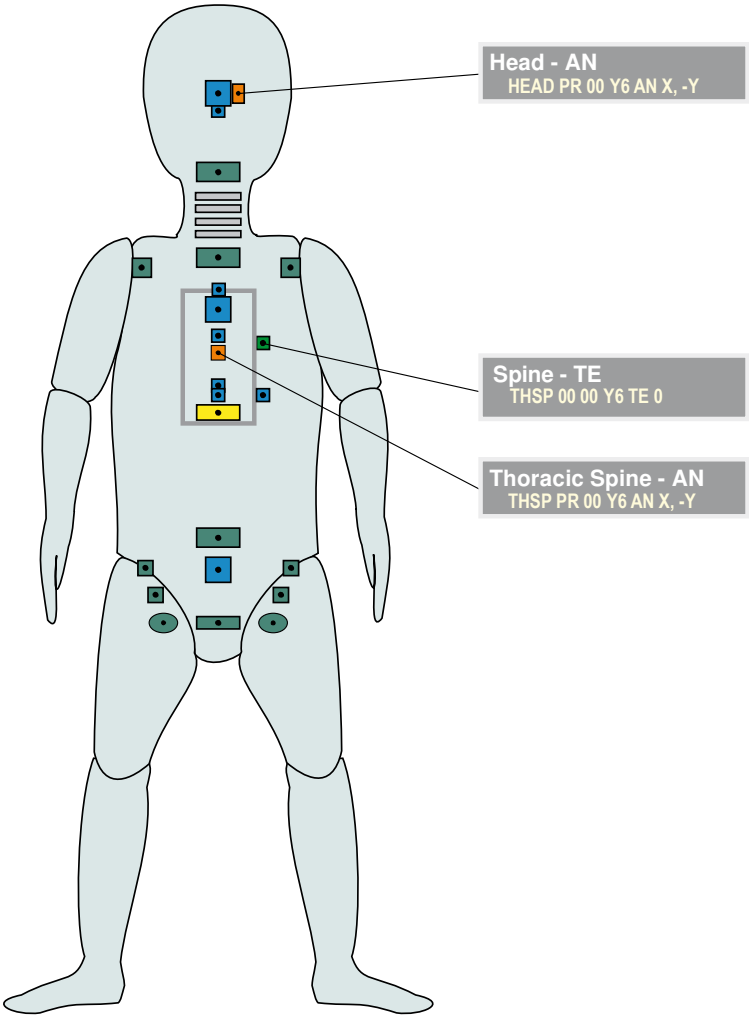


ISO/TS 13499 – RED C : 2010(E)
Y6, Hybrid III 3 Year Old Child Dummy
Additional Instrumentation
2013-07-10





ISO/TS 13499 – RED C : 2010(E)
Y6, Hybrid III 3 Year Old Child Dummy
Static measurements, other channels
2013-07-10

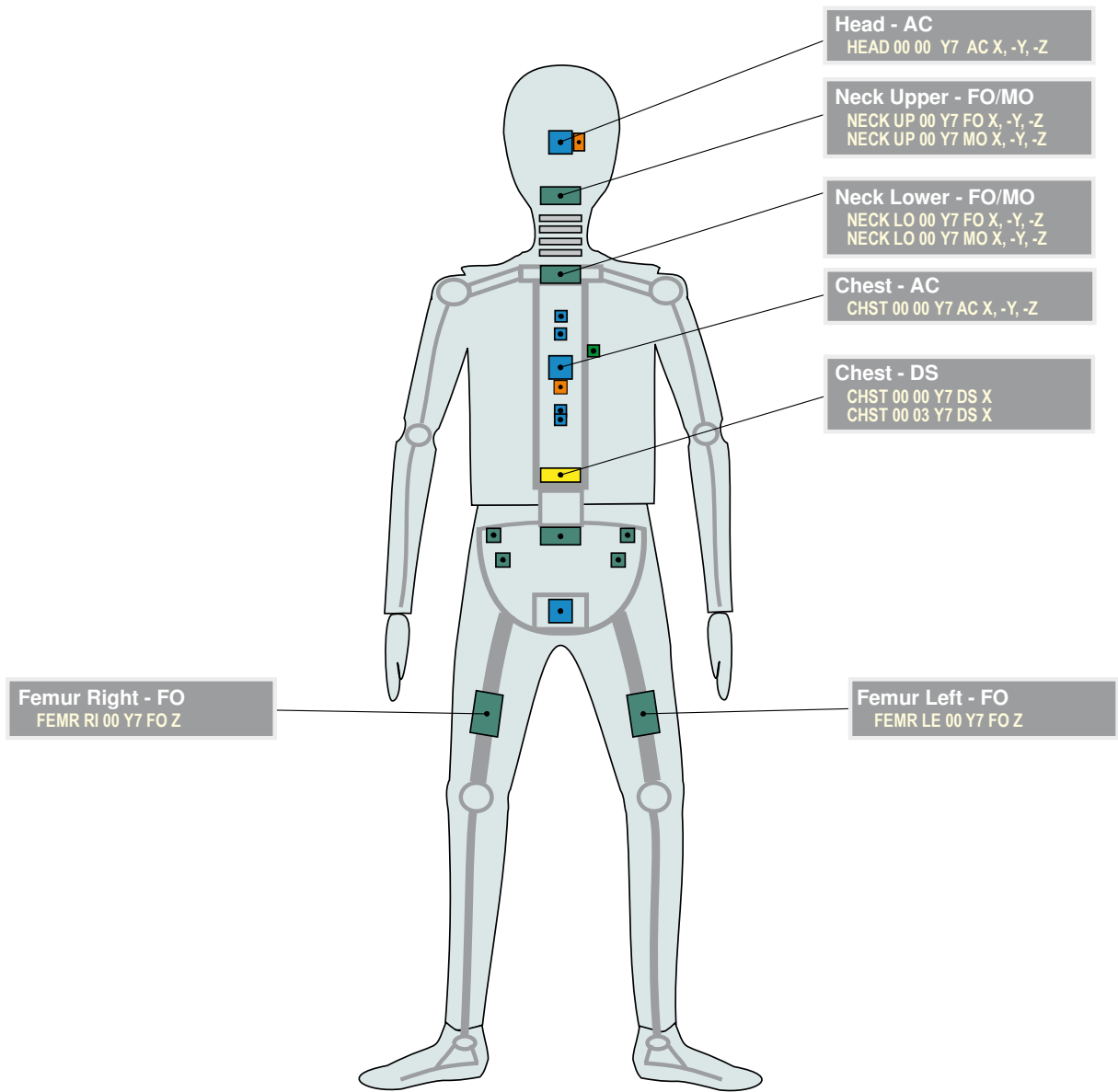


Y7 H III - 6 year old (1)

Valid since Version 1.6.1
NPRM Level "I"

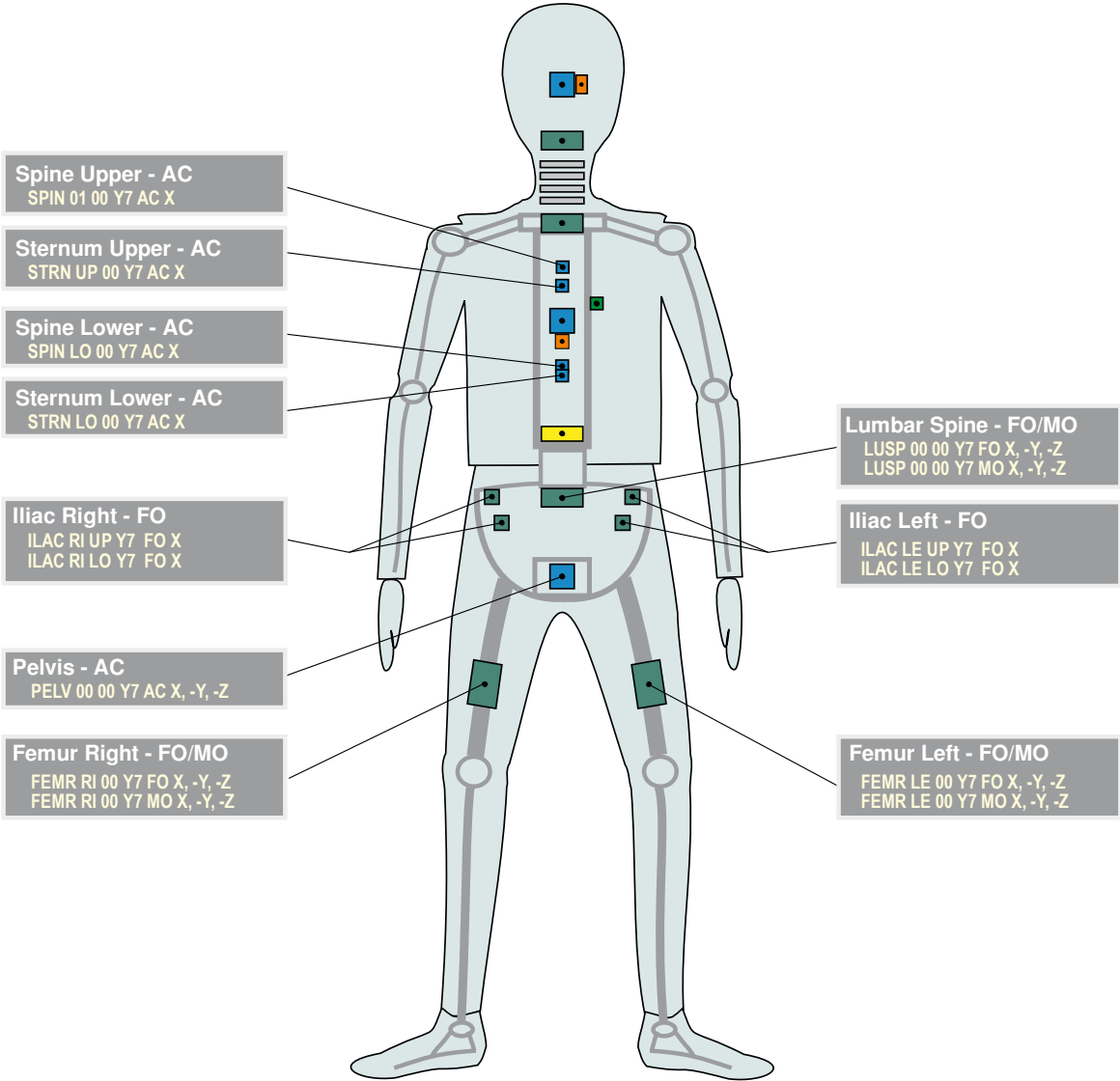


ISO/TS 13499 – RED C : 2010(E)
Y7, Hybrid III 6-Year Old Child Dummy
Standard Instrumentation
2013-04-10





ISO/TS 13499 – RED C : 2010(E)
Y7, Hybrid III 6-Year Old Child Dummy
Additional Instrumentation
2013-04-10

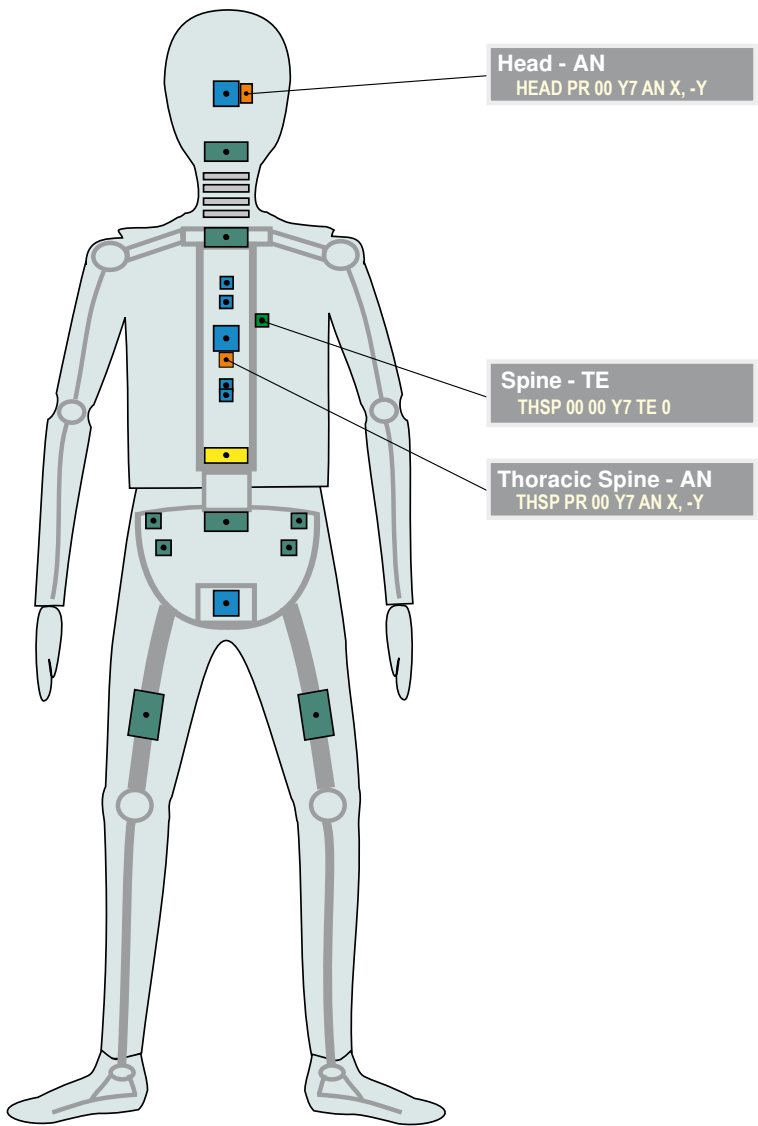


Y7 H III - 6 year old (3)

Valid since Version 1.6.1
NPRM Level "I"



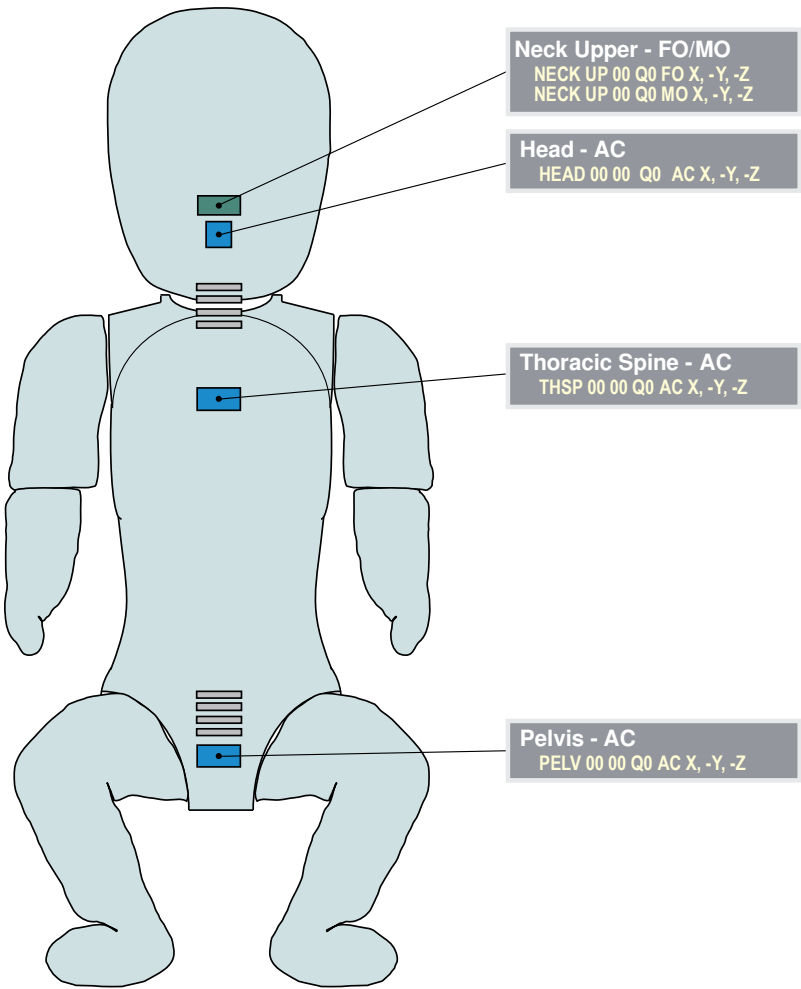
ISO/TS 13499 – RED C : 2010(E)
Y7, Hybrid III 6-Year Old Child Dummy
Static measurements, other channels
2013-04-10





ISO/TS 13499 – RED C : 2012(E)
Q0, 6-week Old Infant Dummy

2012-01-24

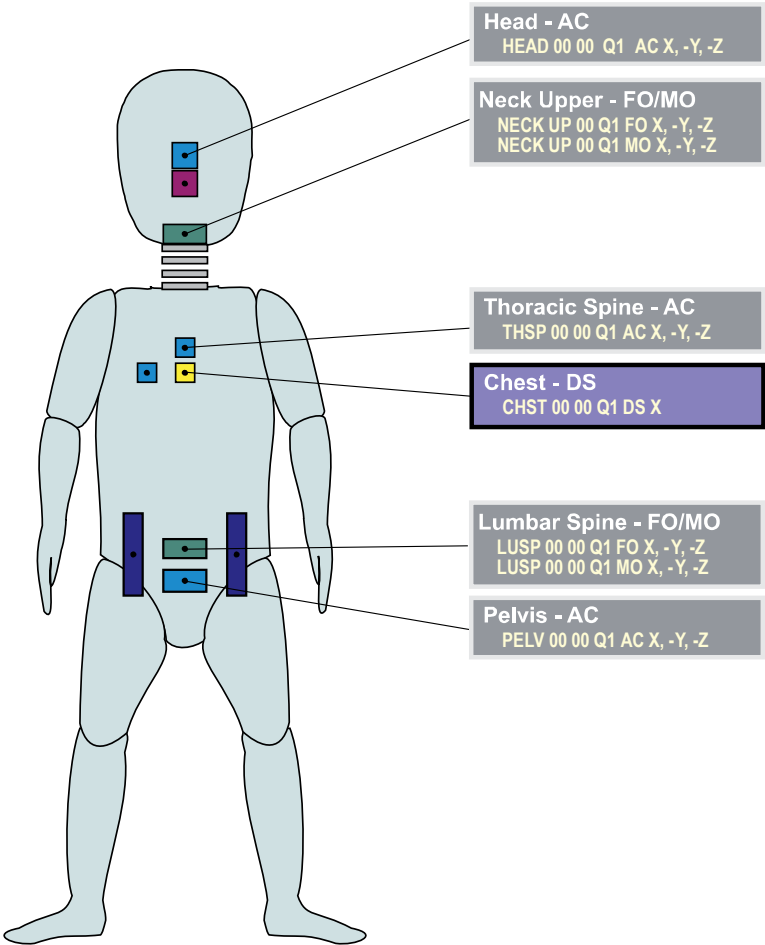


Q1 Q1 (1)

Valid since Version 1.6.2p1



ISO/TS 13499 – RED C : 2012(E)
Q1, Advanced 1-year old Dummy
Standard Instrumentation
2015-11-25

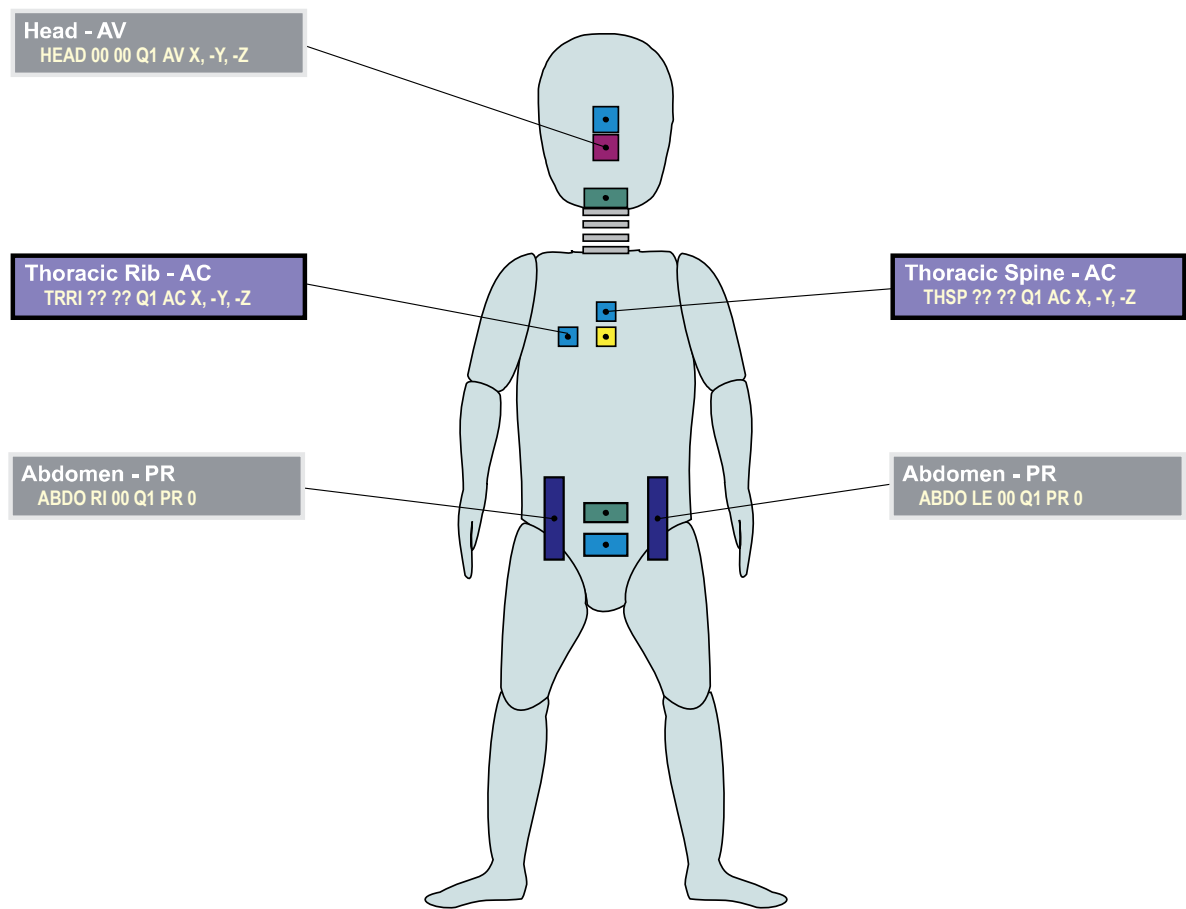


Frontal Impact

Note that sensor orientation is different for side impact configurations.
ISO Codes used must reflect the chosen orientation.^L
Left-hand side impact: CHST LE 00 Q1 DS Y.
Right-hand side impact: CHST RI 00 Q1 DS Y.



ISO/TS 13499 – RED C : 2012(E)
Q1, Advanced 1-year old Dummy
Additional Instrumentation
2015-11-25



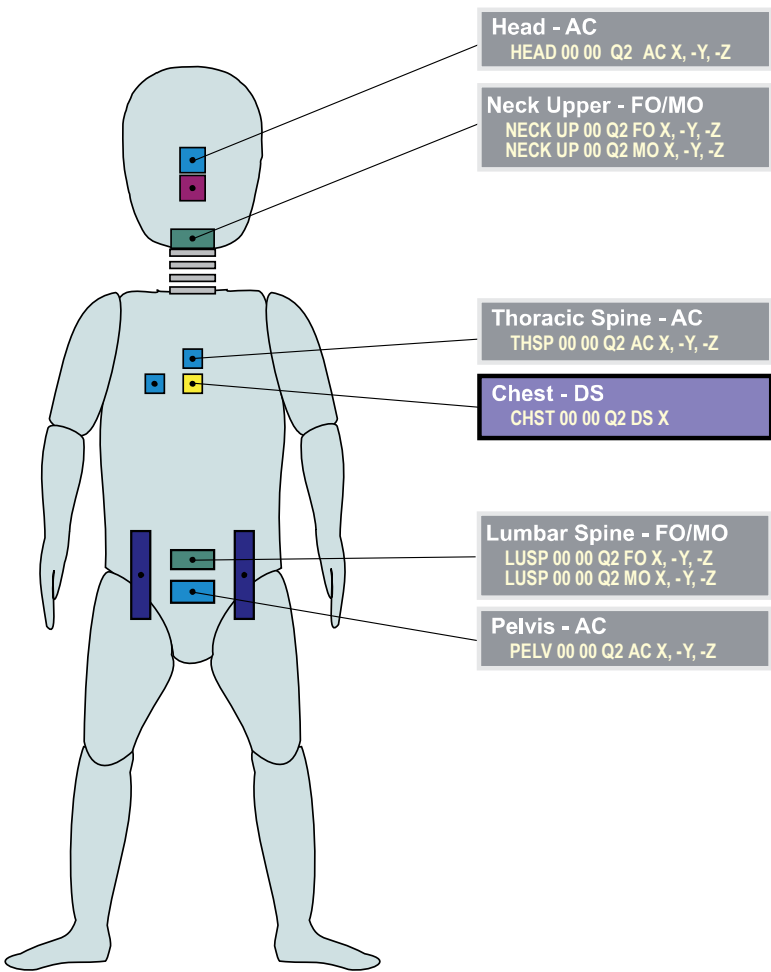
Note that sensor locations are not fixed: transducers are taped in position as required.
ISO Codes used must reflect the chosen position.
FL1 should reflect the side, LE or RI, for these channels, if used.

Q2 Q1 1/2 (1)

Valid since Version 1.6.2p1



ISO/TS 13499 – RED C : 2012(E)
Q2, Advanced 1.5-year old child dummy (Q1.5)
Standard Instrumentation
2015-11-25

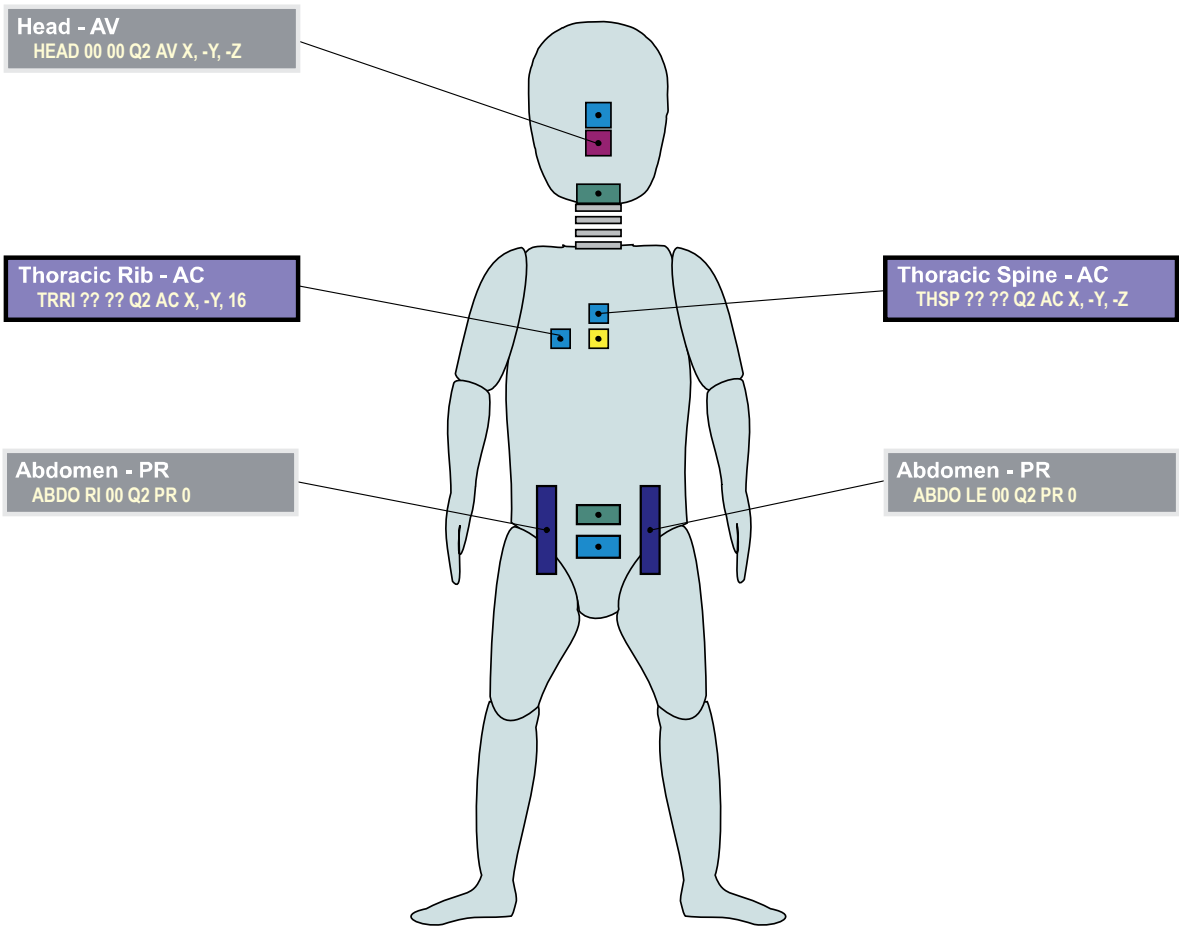


Frontal Impact

Note that sensor orientation is different for side impact configurations.
ISO Codes used must reflect the chosen orientation.^L
Left-hand side impact: CHST LE 00 Q2 DS Y.^L
Right-hand side impact: CHST RI 00 Q2 DS Y.



ISO/TS 13499 – RED C : 2012(E)
Q2, Advanced 1.5-year old child dummy (Q1.5)
Additional Instrumentation
2015-11-25



Note that sensor locations are not fixed: transducers are taped in position as required. ISO Codes used must reflect the chosen position. FL1 should reflect the side, LE or RI, for these channels, if used.

Q3

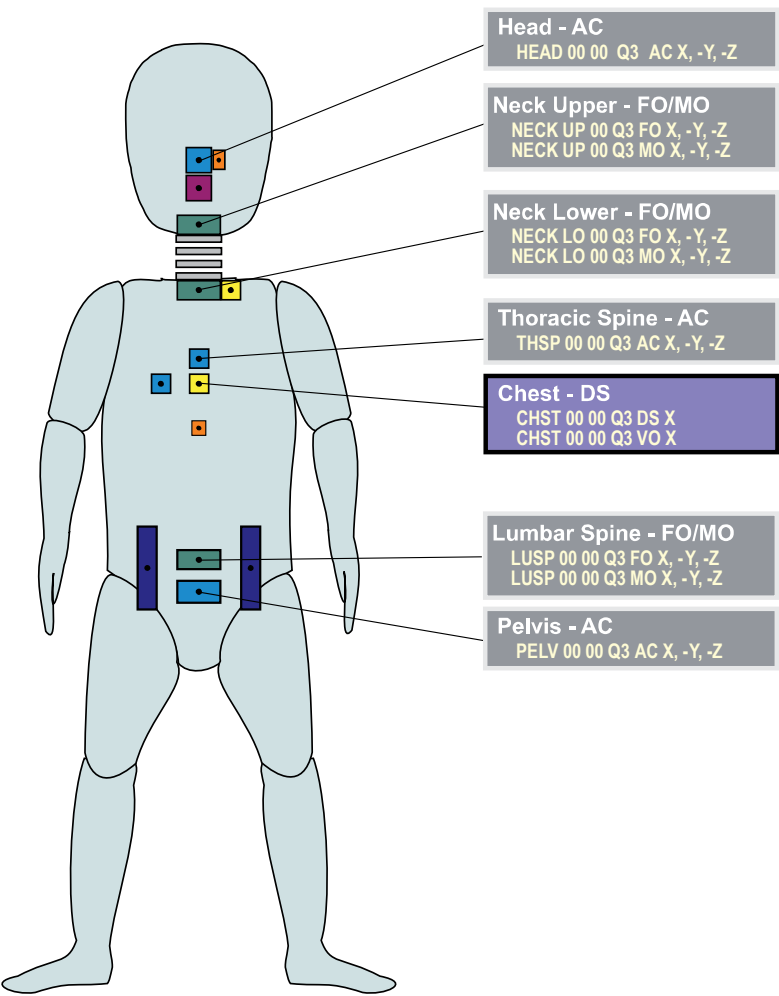
Q3 (1)

Valid since Version

1.6.2p1



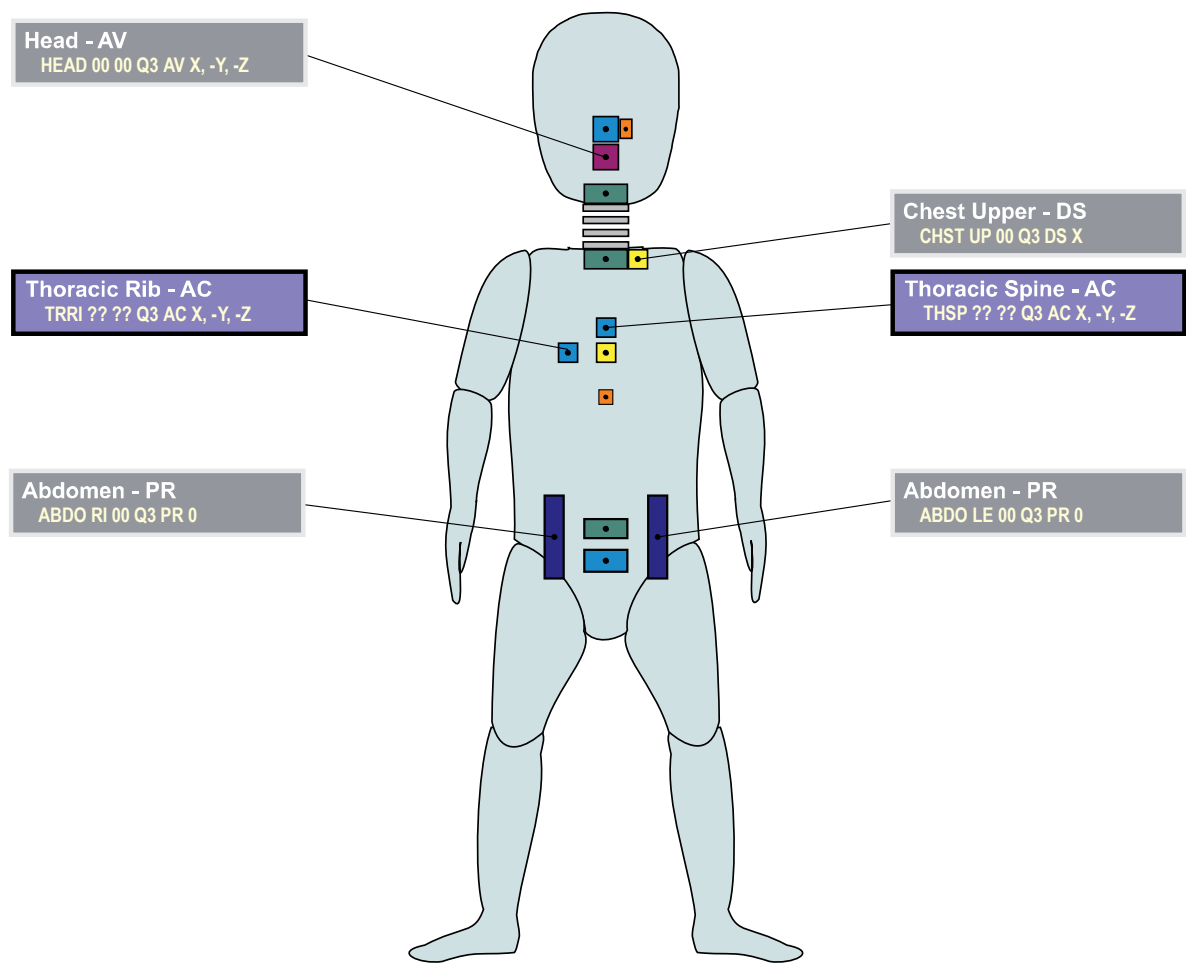
ISO/TS 13499 – RED C : 2012(E)
Q3, Advanced 3-year old child dummy: frontal impact (Q3)
Standard Instrumentation
2015-11-25



Note that the IR-TRACC device fitted to this dummy records a voltage.
It is more normal to exchange the displacement channel.



ISO/TS 13499 – RED C : 2012(E)
Q3, Advanced 3-year old child dummy: frontal impact (Q3)
Additional Instrumentation
2015-11-25



Note that sensor locations are not fixed: transducers are taped in position as required. ISO Codes used must reflect the chosen position. FL1 should reflect the side, LE or RI, for these channels, if used.

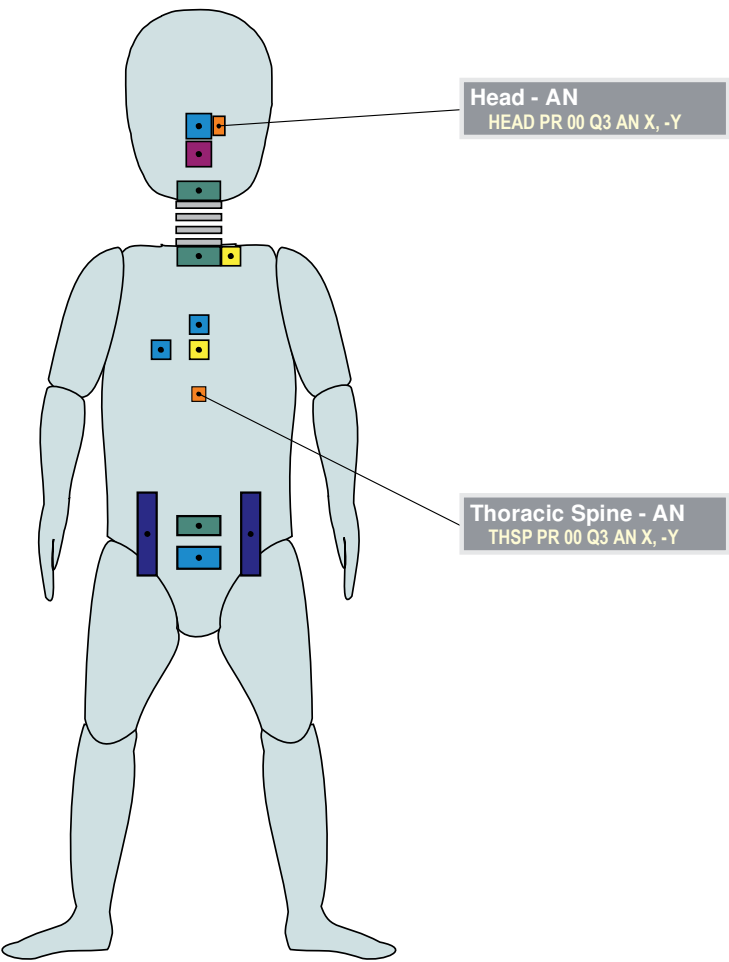
Q3

Q3 (3)

Valid since Version 1.6.2p1

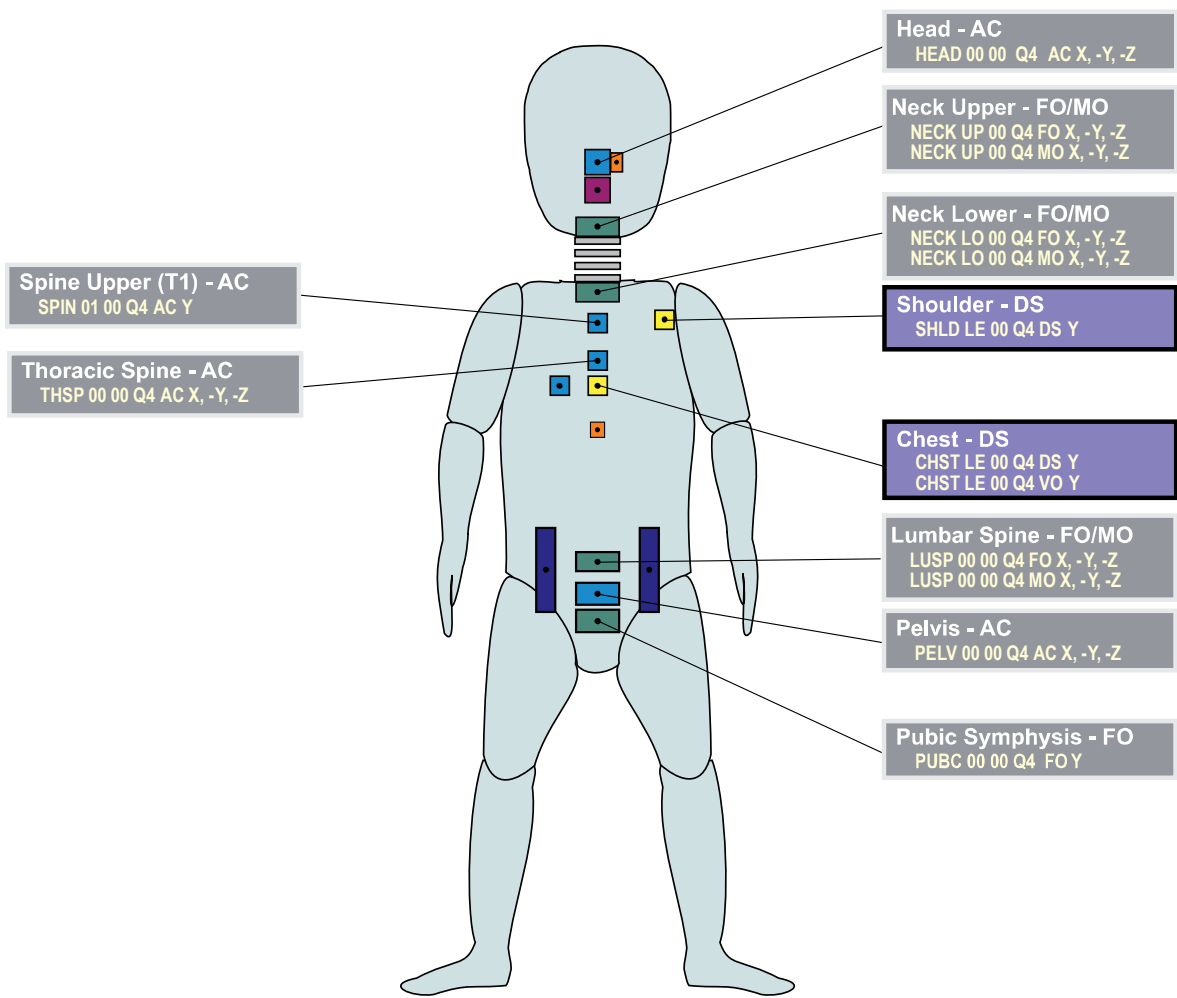


ISO/TS 13499 – RED C : 2012(E)
Q3, Advanced 3-year old child dummy: frontal impact (Q3)
Static measurements, other channels
2015-11-25





ISO/TS 13499 – RED C : 2012(E)
Q4, Advanced 3-year old child dummy: side impact (Q3s)
Standard Instrumentation
2015-11-25



Left Side Impact, Front-View

Note that sensor locations and ISO Codes are different for right side impact.
Note that the IR-TRACC device fitted to this dummy records a voltage.
It is more normal to exchange the displacement channel.

Q3s Q3s Side Impact (2)

Valid since Version

1.6.2p1

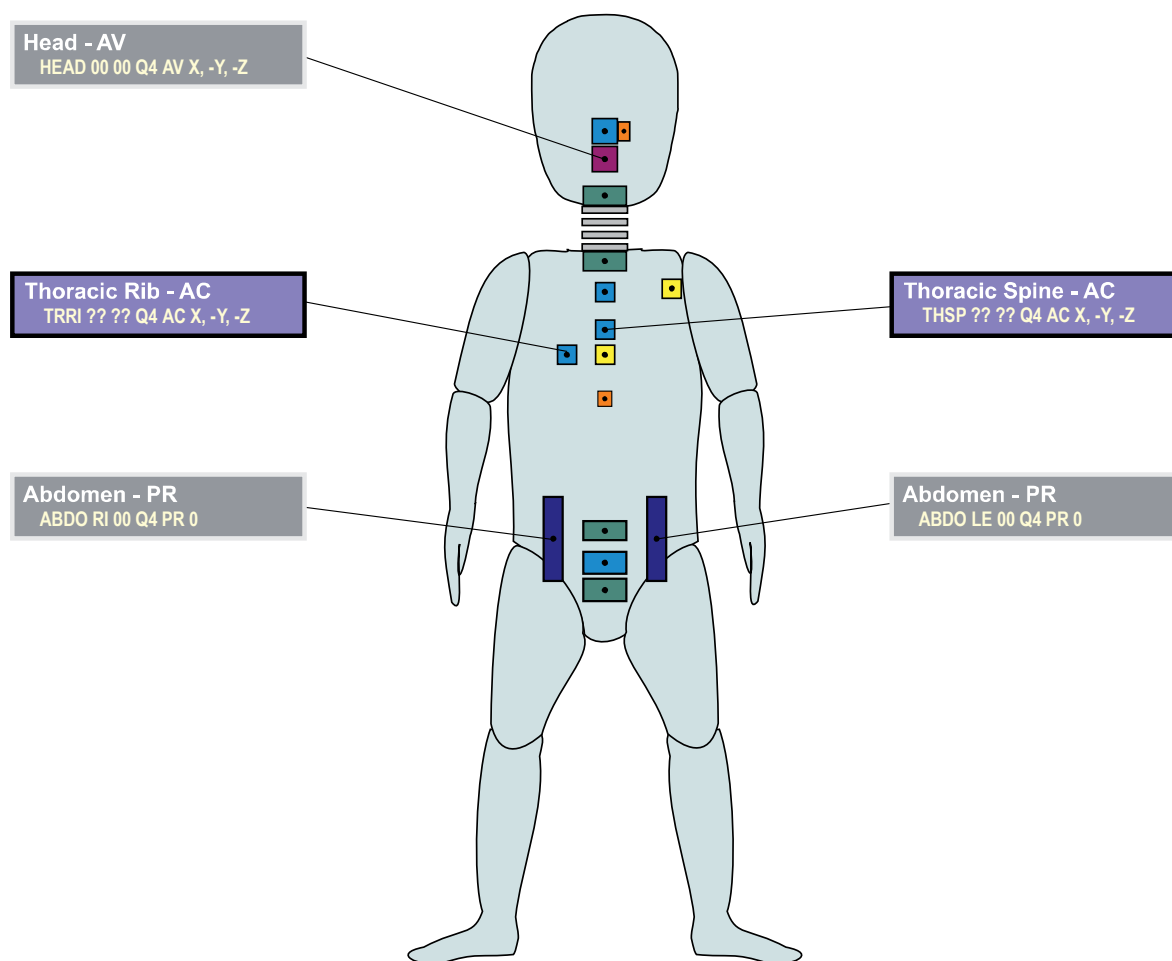


ISO/TS 13499 – RED C : 2012(E)

Q4, Advanced 3-year old child dummy: side impact (Q3s)

Additional Instrumentation

2015-11-25



Note that sensor locations are not fixed: transducers are taped in position as required. ISO Codes used must reflect the chosen position. FL1 should reflect the side, LE or RI, for these channels, if used.

ISO-Q4_20151125

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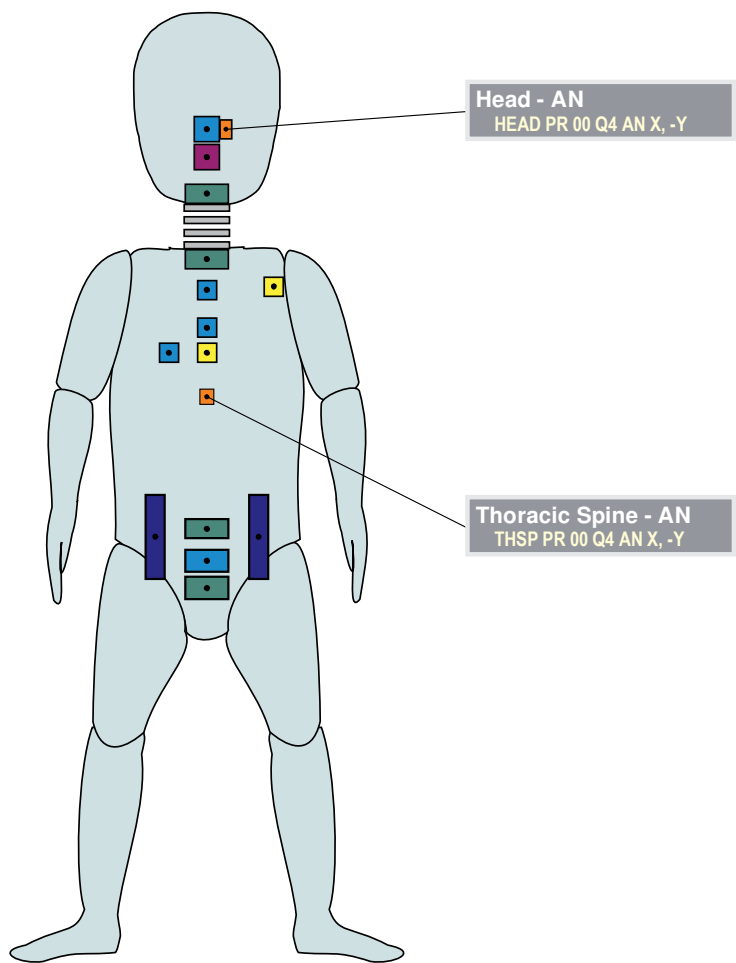
ISO TC 22 / SC 12 / WG 3 / ISO-MME Task Force¹
Maintained by Paul Wellicome, HORIBA MIRA Ltd.

ISO_Q4_2_162p1_20151125.EMF

-> Q3s <- 2 of 3



ISO/TS 13499 – RED C : 2012(E)
Q4, Advanced 3-year old child dummy: side impact (Q3s)
Static measurements, other channels
2015-11-25



Q6

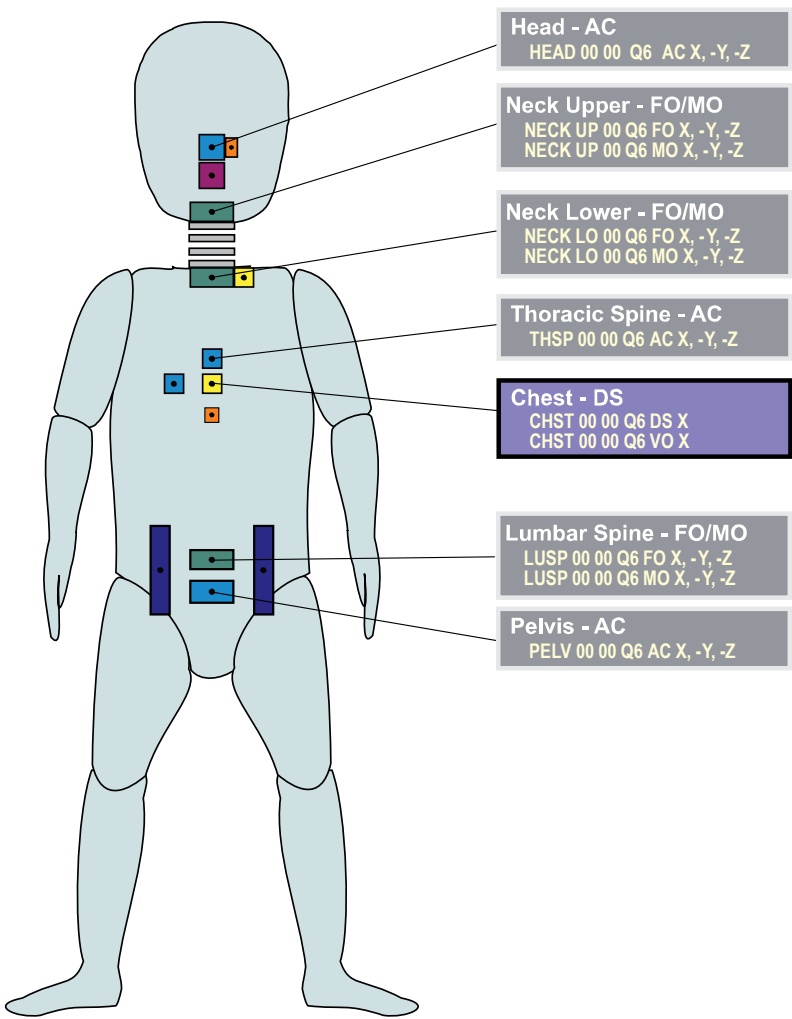
Q6 (1)

Valid since Version

1.6.2p1



ISO/TS 13499 – RED C : 2012(E)
Q6, Advanced 6-year old child dummy
Standard Instrumentation
2015-11-25



Frontal Impact



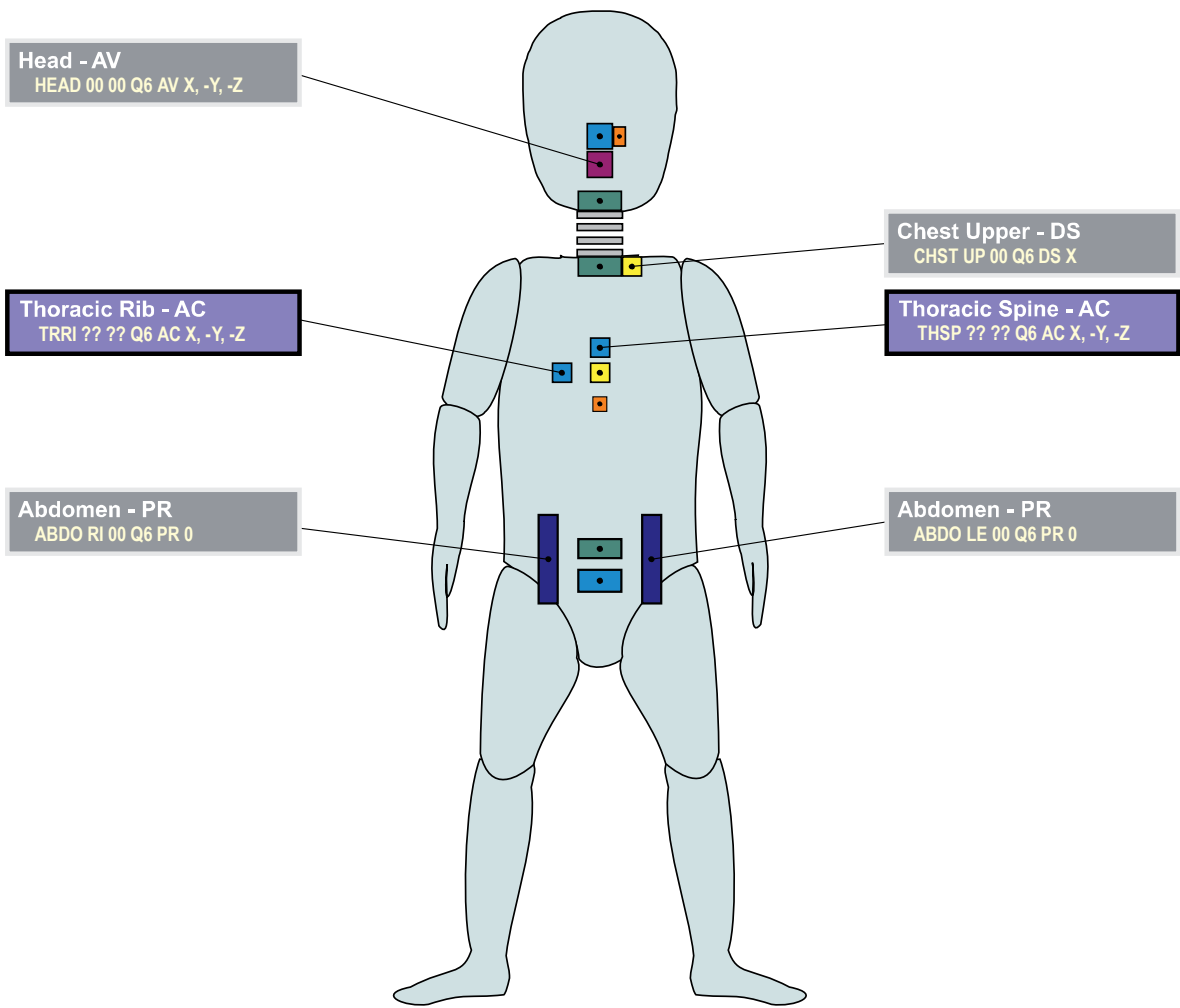
Note that sensor orientation is different for side impact configurations.
ISO Codes used must reflect the chosen orientation.^L
Left-hand side impact: CHST LE 00 Q6 DS Y and CHST LE 00 Q6 VO Y.^L
Right-hand side impact: CHST RI 00 Q6 DS Y and CHST RI 00 Q6 VO Y..

Note that the IR-TRACC device fitted to this dummy records a voltage.
It is more normal to exchange the displacement channel.

ISO-Q6_20151125



ISO/TS 13499 – RED C : 2012(E)
Q6, Advanced 6-year old child dummy
Additional Instrumentation
2015-11-25



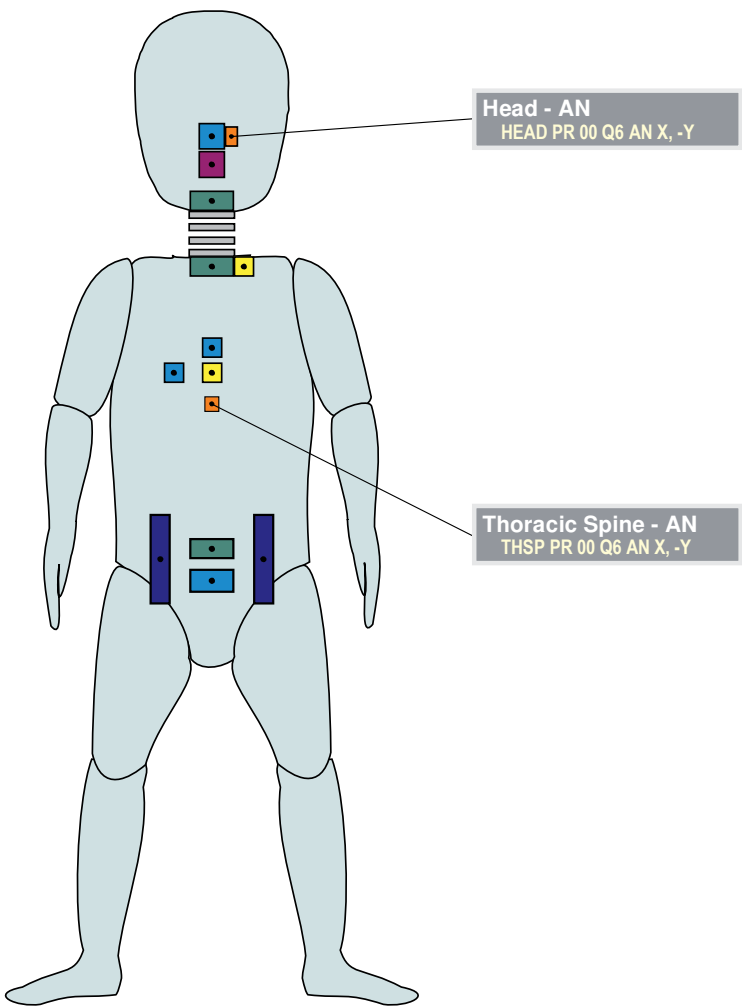
Note that sensor locations are not fixed: transducers are taped in position as required. ISO Codes used must reflect the chosen position. FL1 should reflect the side, LE or RI, for these channels, if used.

Q6 Q6 (3)

Valid since Version 1.6.2p1

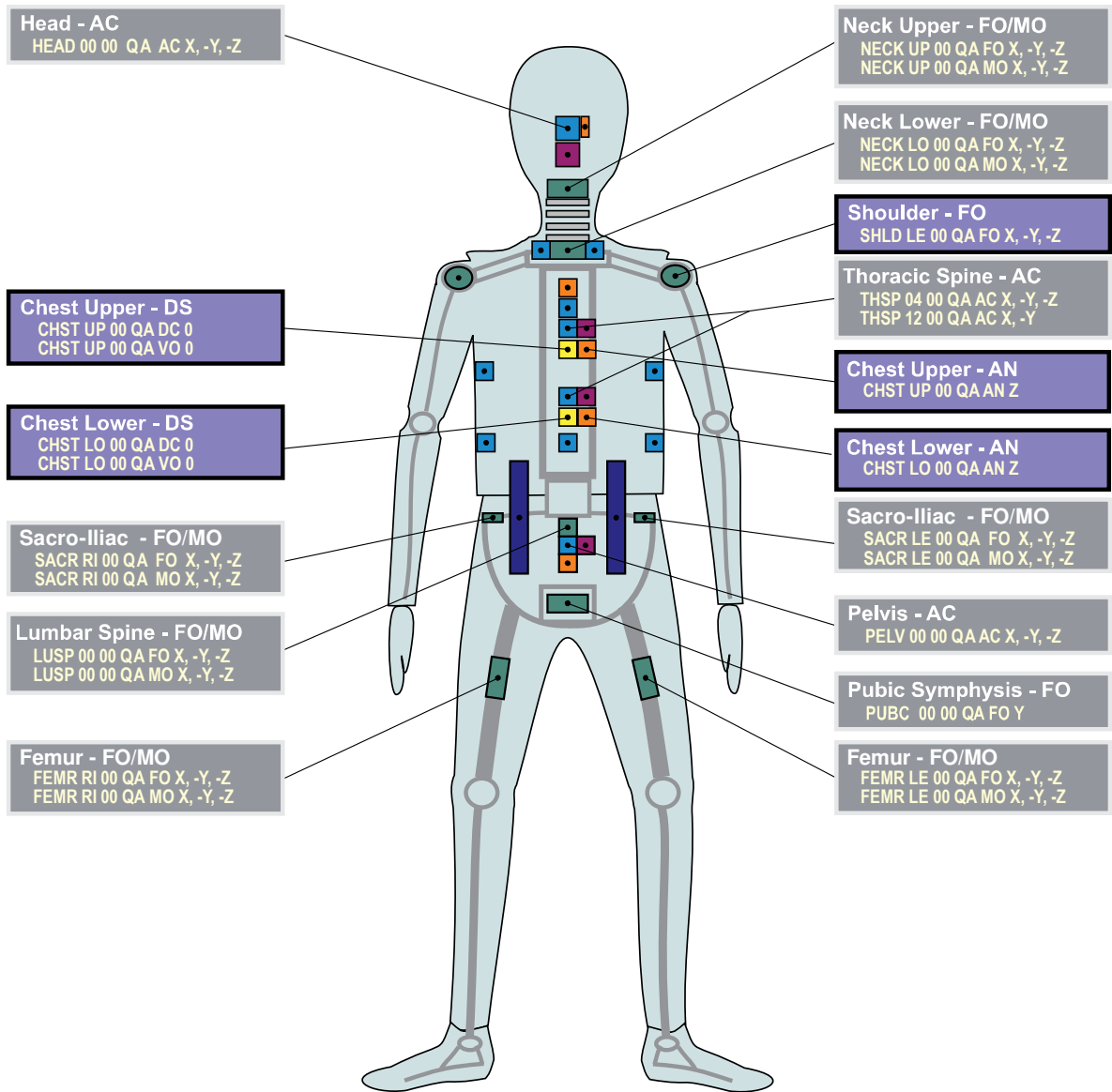


ISO/TS 13499 – RED C : 2012(E)
Q6, Advanced 6-year old child dummy
Static measurements, other channels
2015-11-25





ISO/TS 13499 – RED C : 2010(E)
QA, Advanced 10-year old child dummy
Standard Instrumentation
2015-11-25



Frontal Impact



Note that sensor configuration is different for side impact. ^L

ISO Codes used must reflect the chosen orientation. ^L

Left-hand side impact: SHLD LE 00 QA FO X, -Y, -Z, CHST LE UP QA DC 0, CHST LE UP QA VO 0, CHST LE LO QA DC 0, ^L
CHST LE LO QA VO 0, CHST LE UP QA AN Z and CHST LE LO QA AN Z. ^L

Right-hand side impact: SHLD RI 00 QA FO X, -Y, -Z, CHST RI UP QA DC 0, CHST RI UP QA VO 0, CHST RI LO QA DC 0, ^L
CHST RI LO QA VO 0, CHST RI UP QA AN Z and CHST RI LO QA AN Z.

Note that the IR-TRACC device fitted to this dummy records a voltage.
It is more normal to exchange the distance channel, IR-TRACC total length.

ISO-QA_20151125

Q10

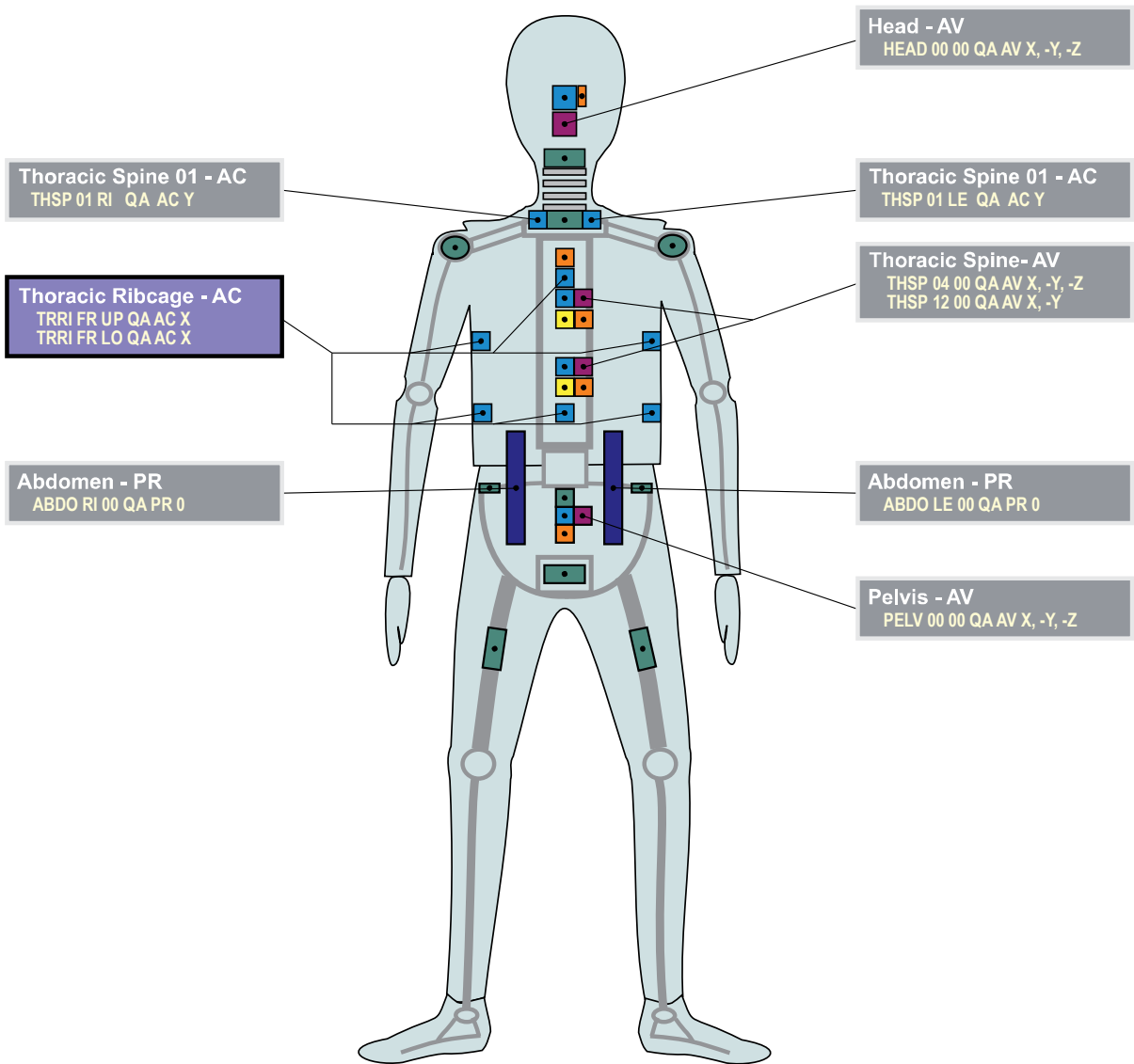
Q10 (2)

Valid since Version

1.6.2p1



ISO/TS 13499 – RED C : 2010(E)
QA, Advanced 10-year old child dummy
 Additional Instrumentation
 2015-11-25



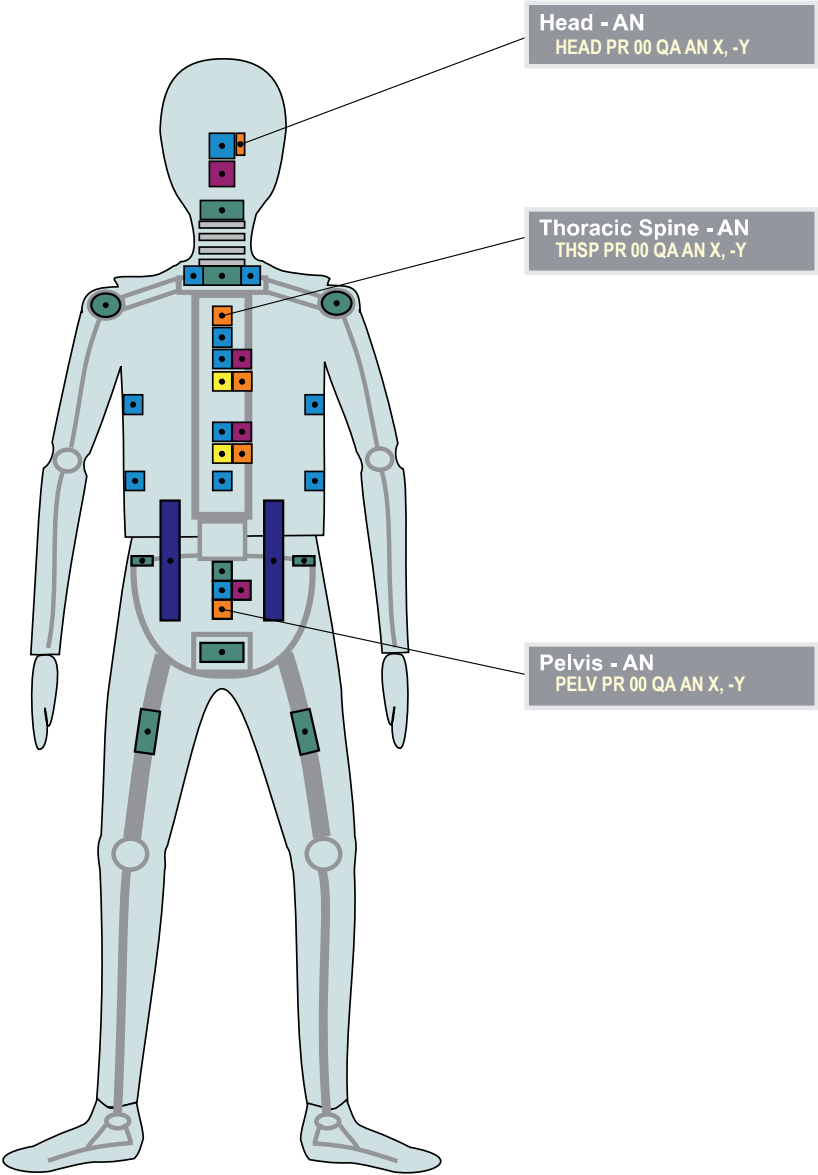
Frontal Impact



Note that sensor orientation is different for side impact configurations. ^L
 ISO Codes used must reflect the chosen orientation. ^L
 Left-hand side impact: TRRI LE UP QA AC Y and TRRI LE LO QA AC Y. ^L
 Right-hand side impact: TRRI RI UP QA AC Y and TRRI RI LO QA AC Y.



ISO/TS 13499 – RED C : 2010(E)
QA, Advanced 10-year old child dummy
Static measurements, other channels
2015-11-25



HF

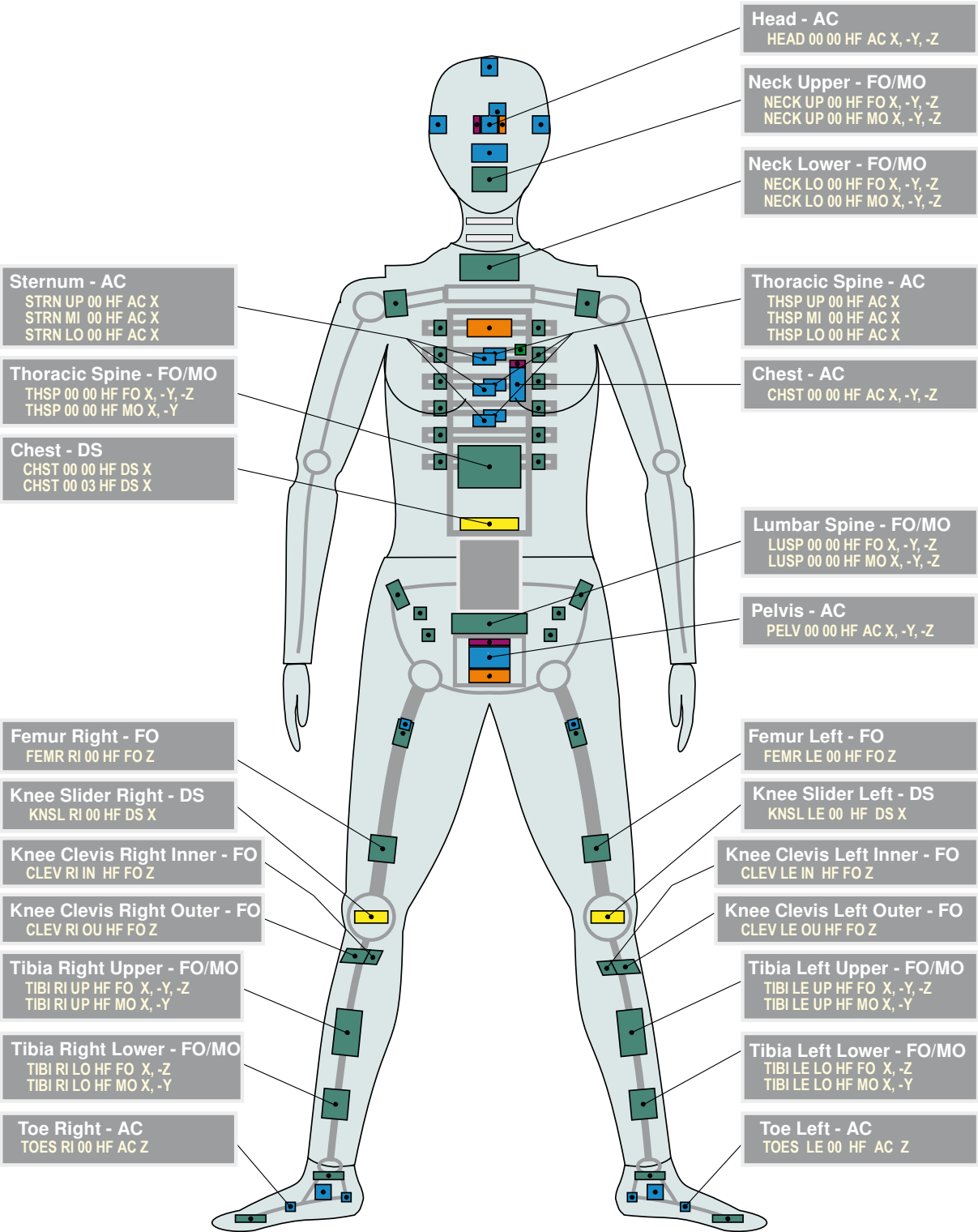
Hybrid III 5% Female (1)

Valid since Version

1.6.1



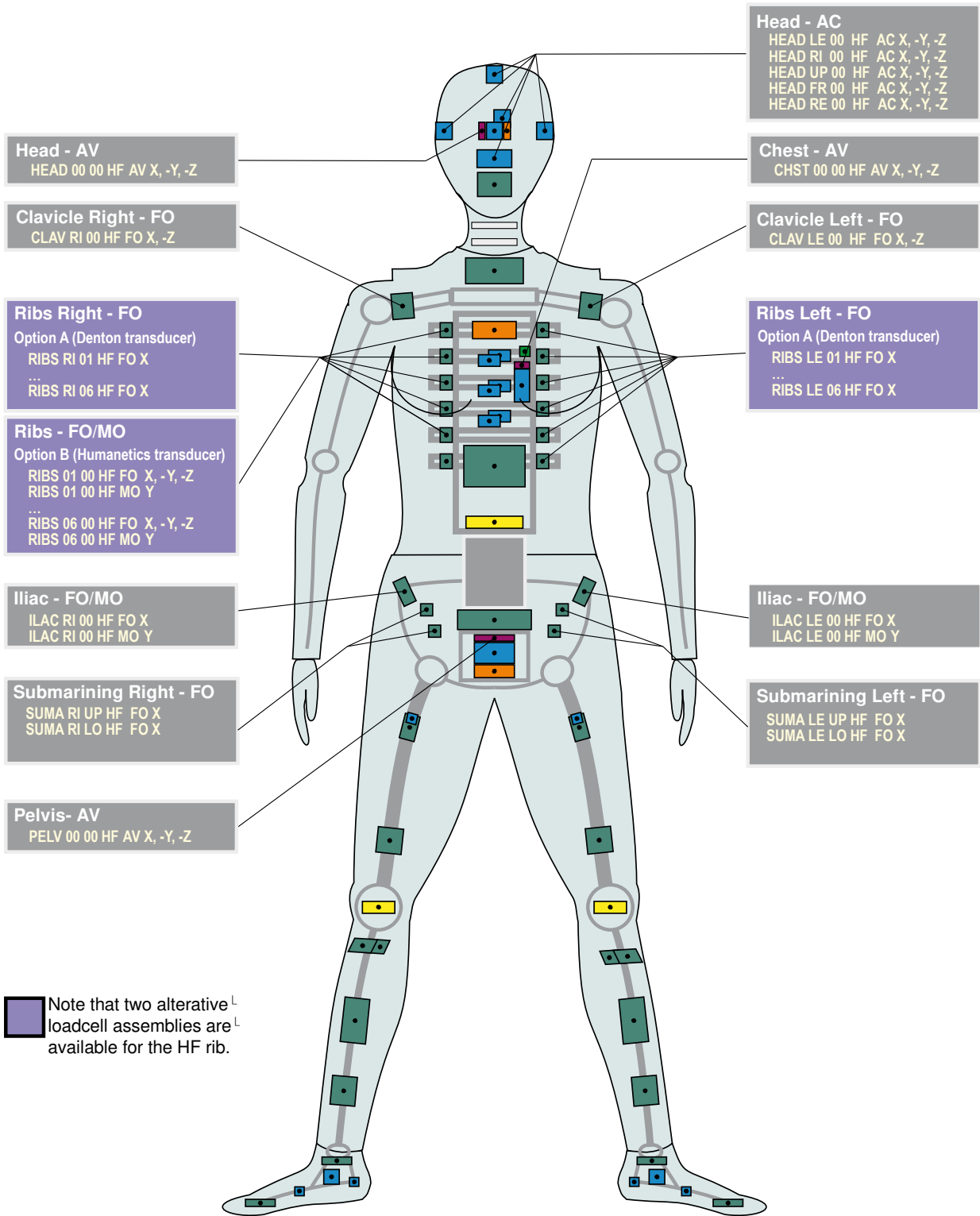
ISO/TS 13499 – RED C : 2012(E)
 HF, Hybrid III 5% female
 Standard Instrumentation
 2013-04-10



ISO-HF_20130410



ISO/TS 13499 – RED C : 2012(E)
HF, Hybrid III 5% female
Additional Instrumentation - Head, Torso and Pelvis
2013-04-10



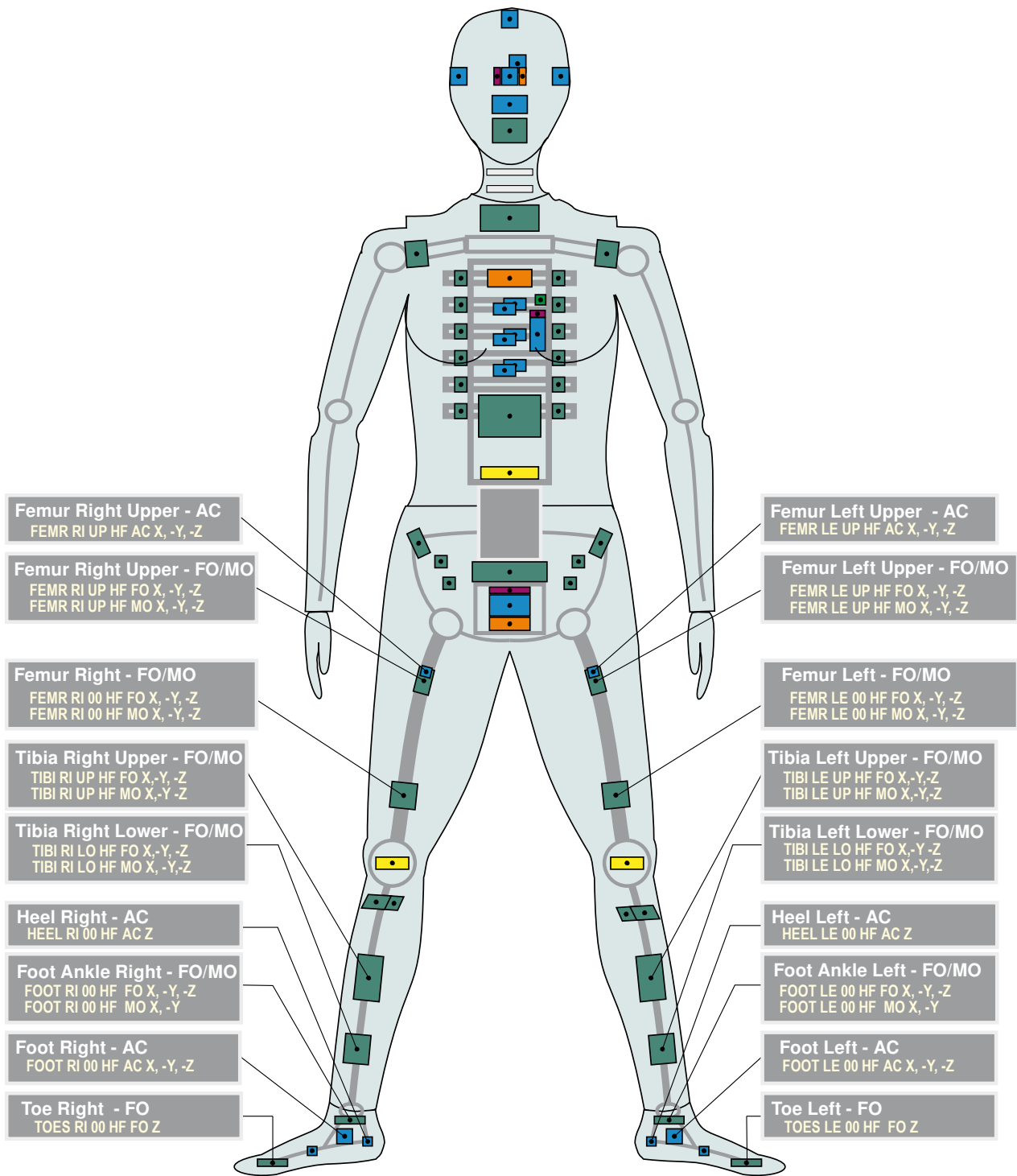
HF Hybrid III 5% Female (3)

Valid since Version

1.6.1



ISO/TS 13499 – RED C : 2012(E)
HF, Hybrid III 5% female
Additional Instrumentation - Legs
2013-04-10



ISO-HF_20130410

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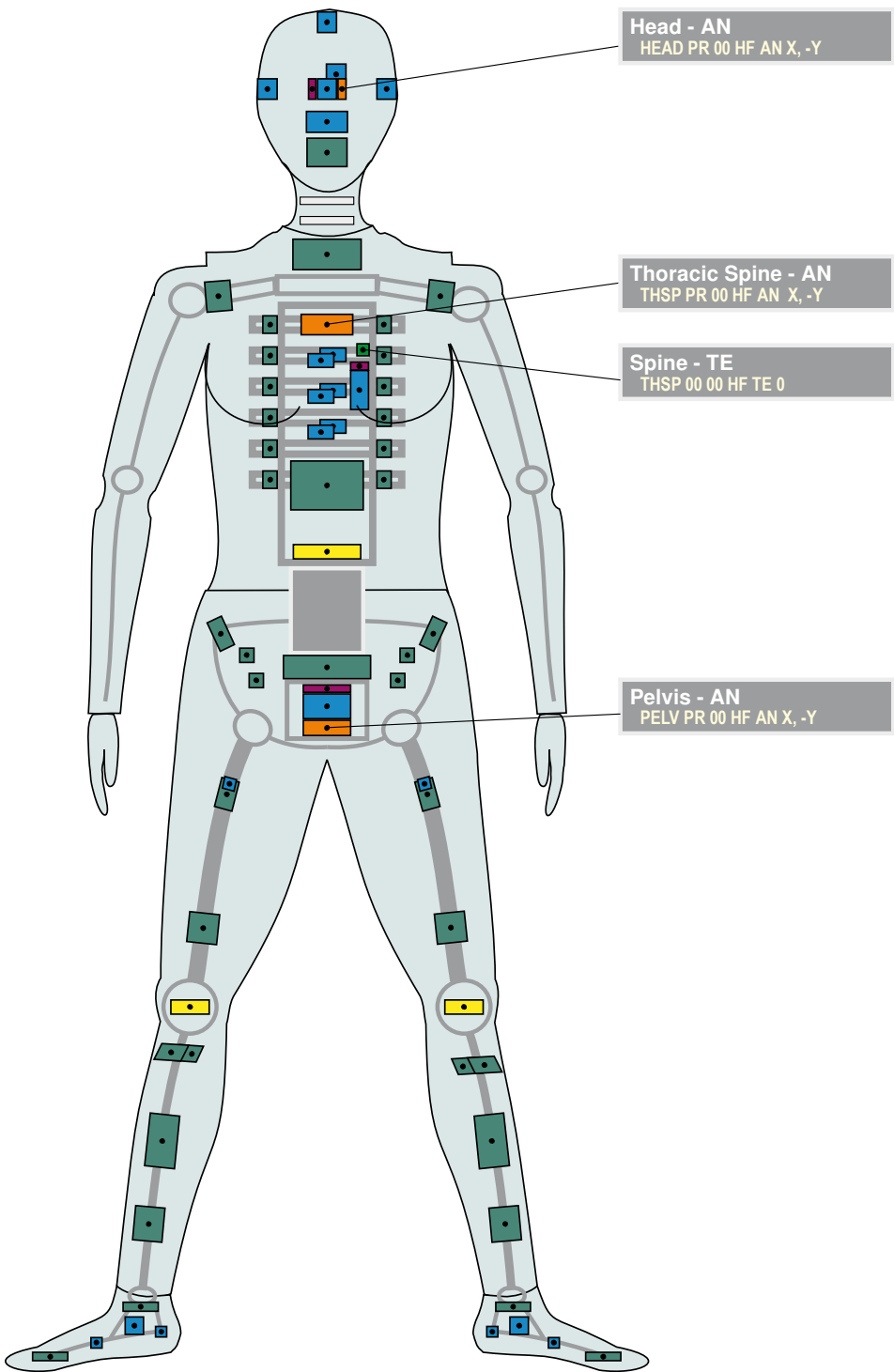
ISO TC 22 / SC 12 / WG 3 / ISO-MME Task Force¹
Maintained by Paul Wellicome, MIRA Ltd.

ISO_HF_3_161_20130410.EMF

-> HF <- 3 of 5



ISO/TS 13499 – RED C : 2012(E)
HF, Hybrid III 5% female
Static measurements, other channels
2013-04-10

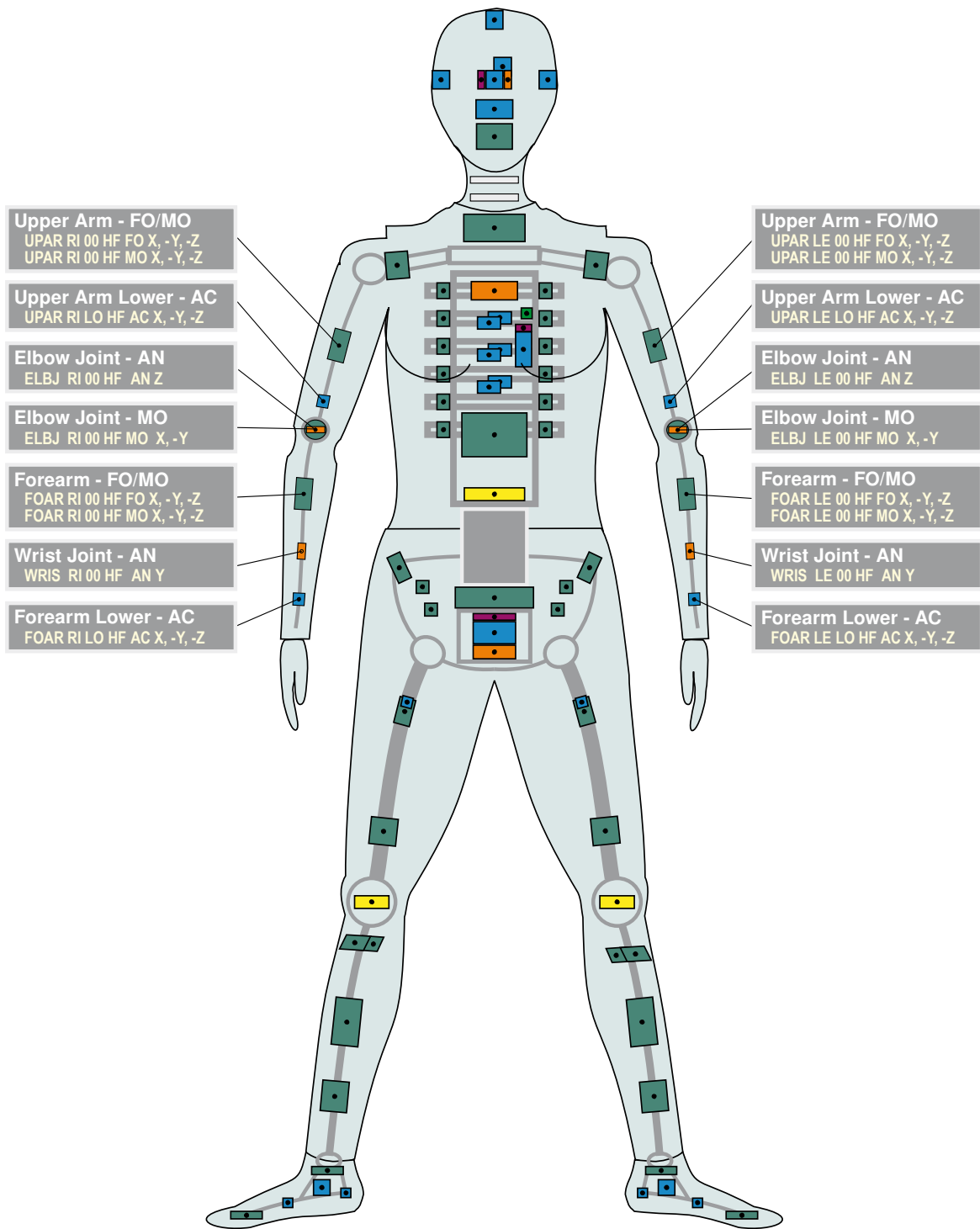


HF Hybrid III 5% Female (5)

Valid since Version 1.6.1



ISO/TS 13499 – RED C : 2012(E)
HF, Hybrid III 5% female
Additional Instrumentation: Instrumented arm
2013-04-10

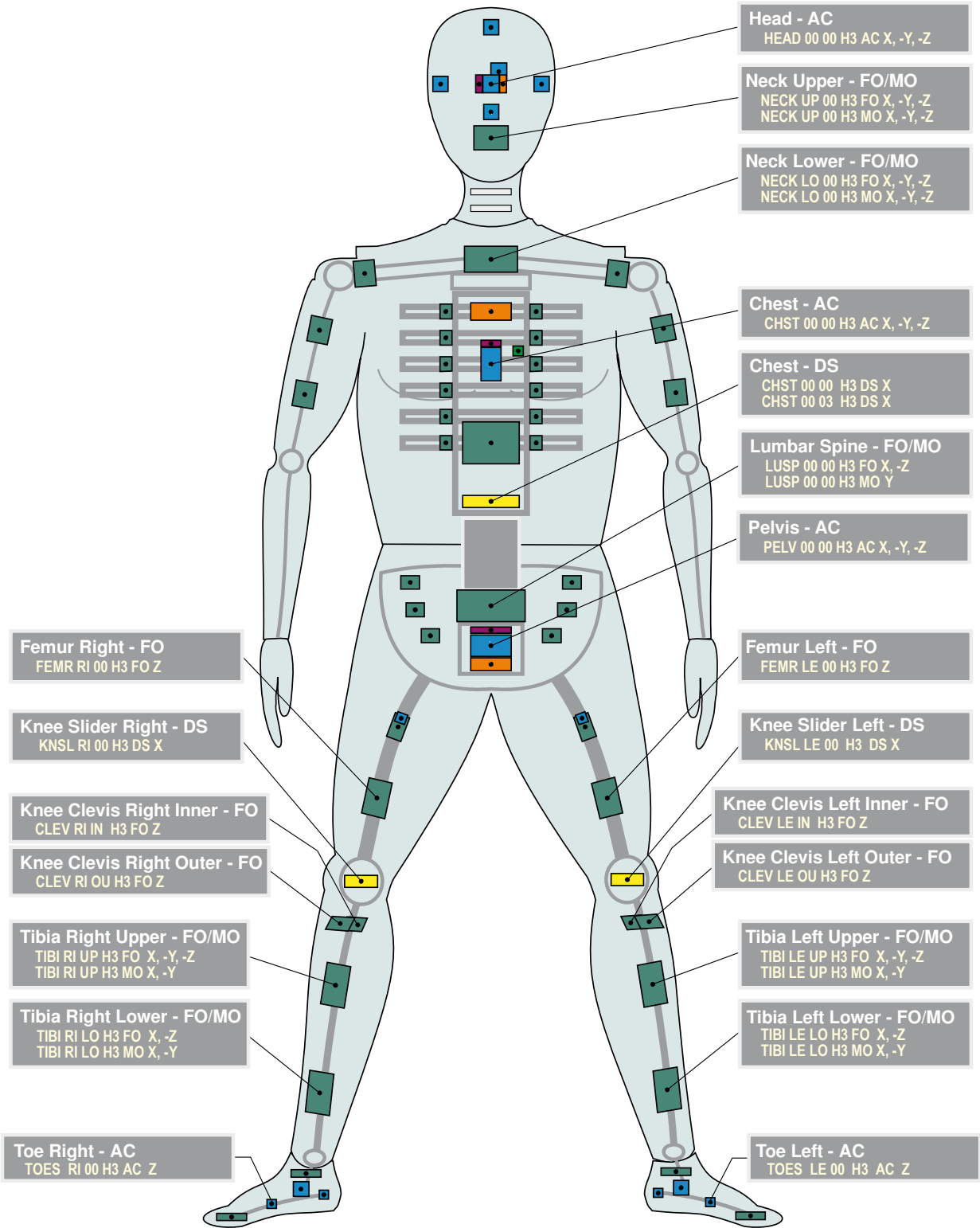


ISO-HF_20130410

ISO TC 22 / SC 12 / WG 3 / ISO-MME Task Force^L
Maintained by Paul Wellicome, MIRA Ltd.



ISO/TS 13499 – RED C : 2012
H3, Hybrid III 50% male
Standard Instrumentation
2013-04-10



ISO-H3_20130410

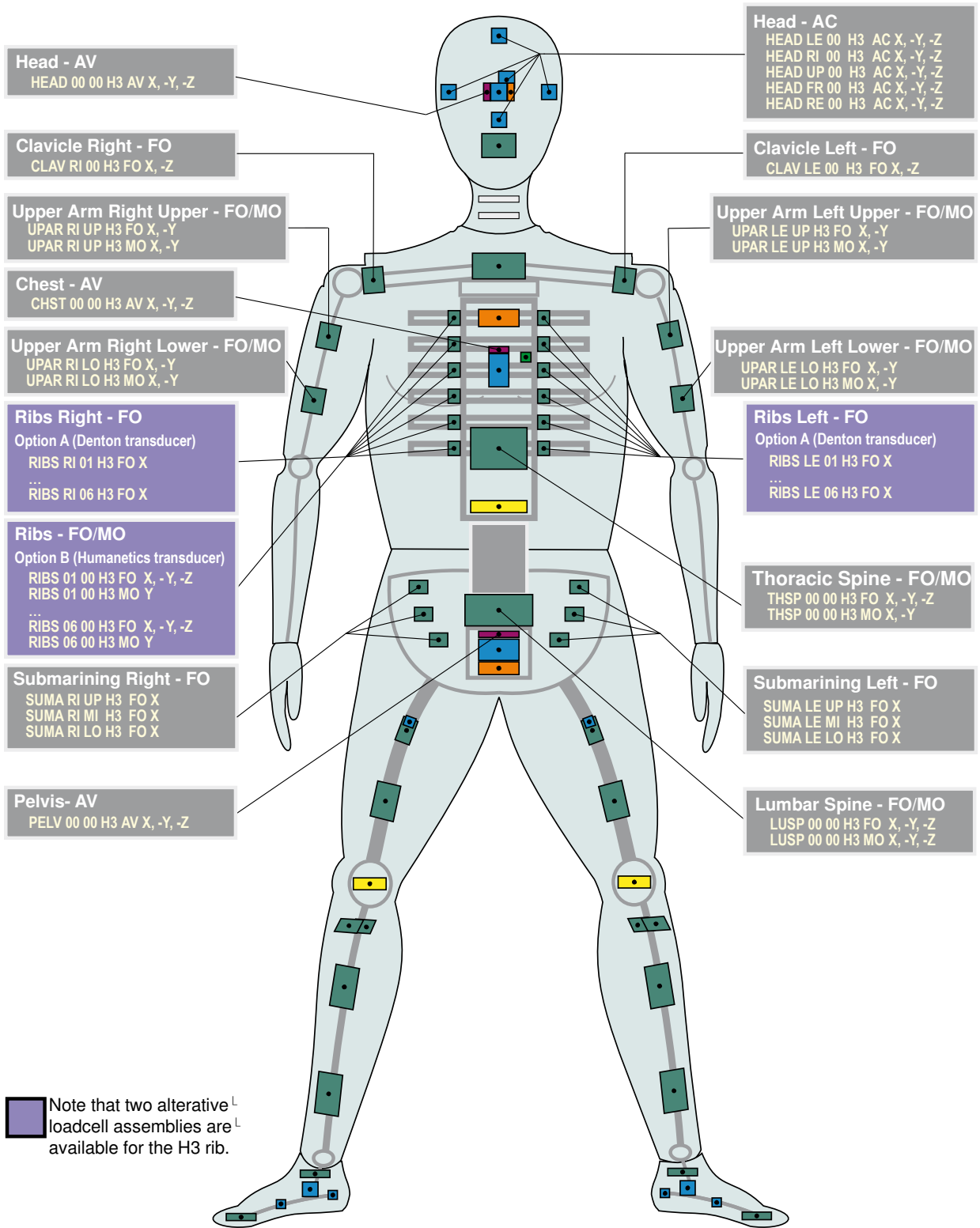
H3 Hybrid III 50% Male (2)

Valid since Version

1.6.1



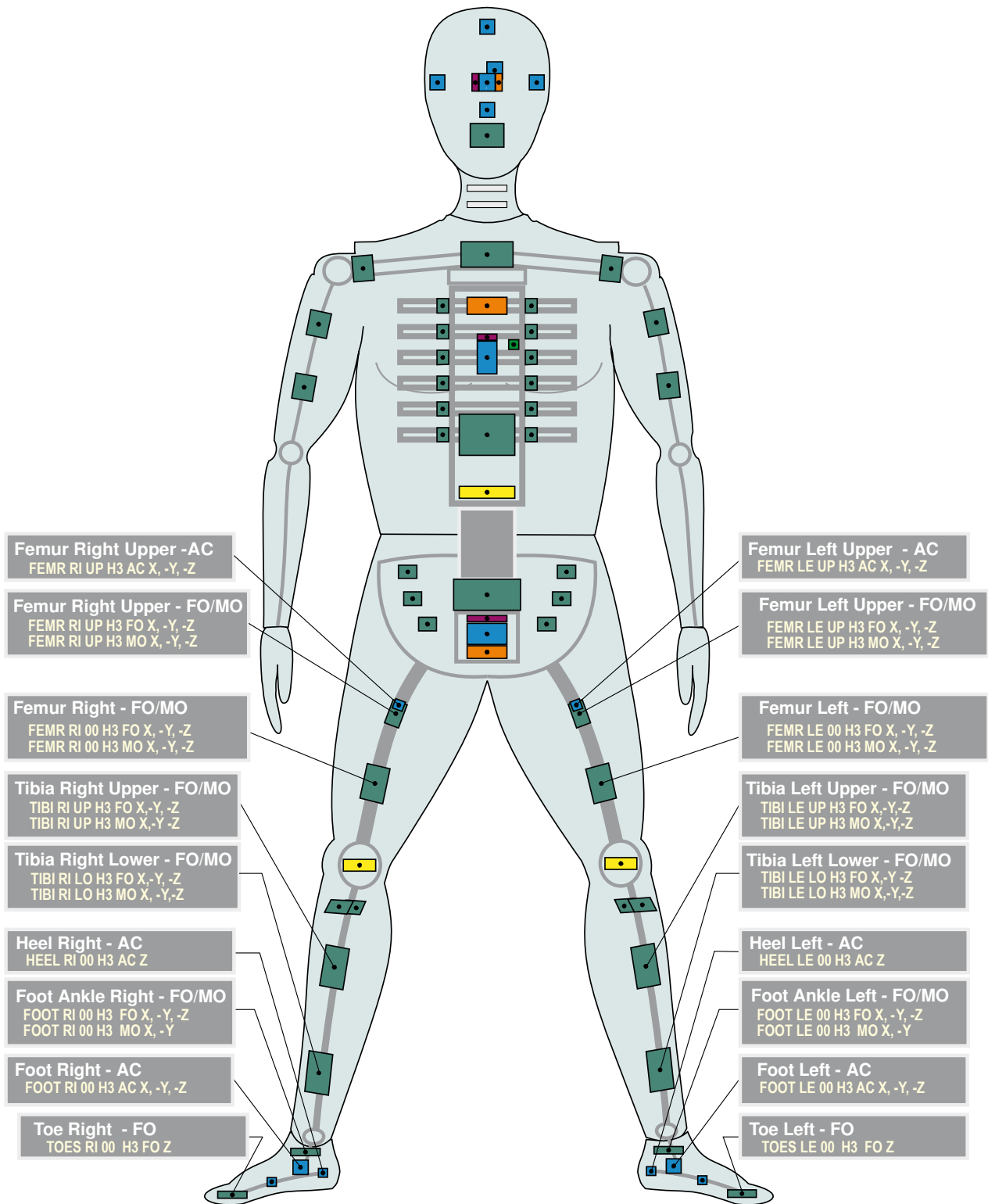
ISO/TS 13499 – RED C : 2012
H3, Hybrid III 50% male
Additional Instrumentation - Head, Torso and Pelvis
2013-04-10



ISO-H3_20130410



ISO/TS 13499 – RED C : 2012
H3, Hybrid III 50% male
Additional Instrumentation - Legs
2013-04-10



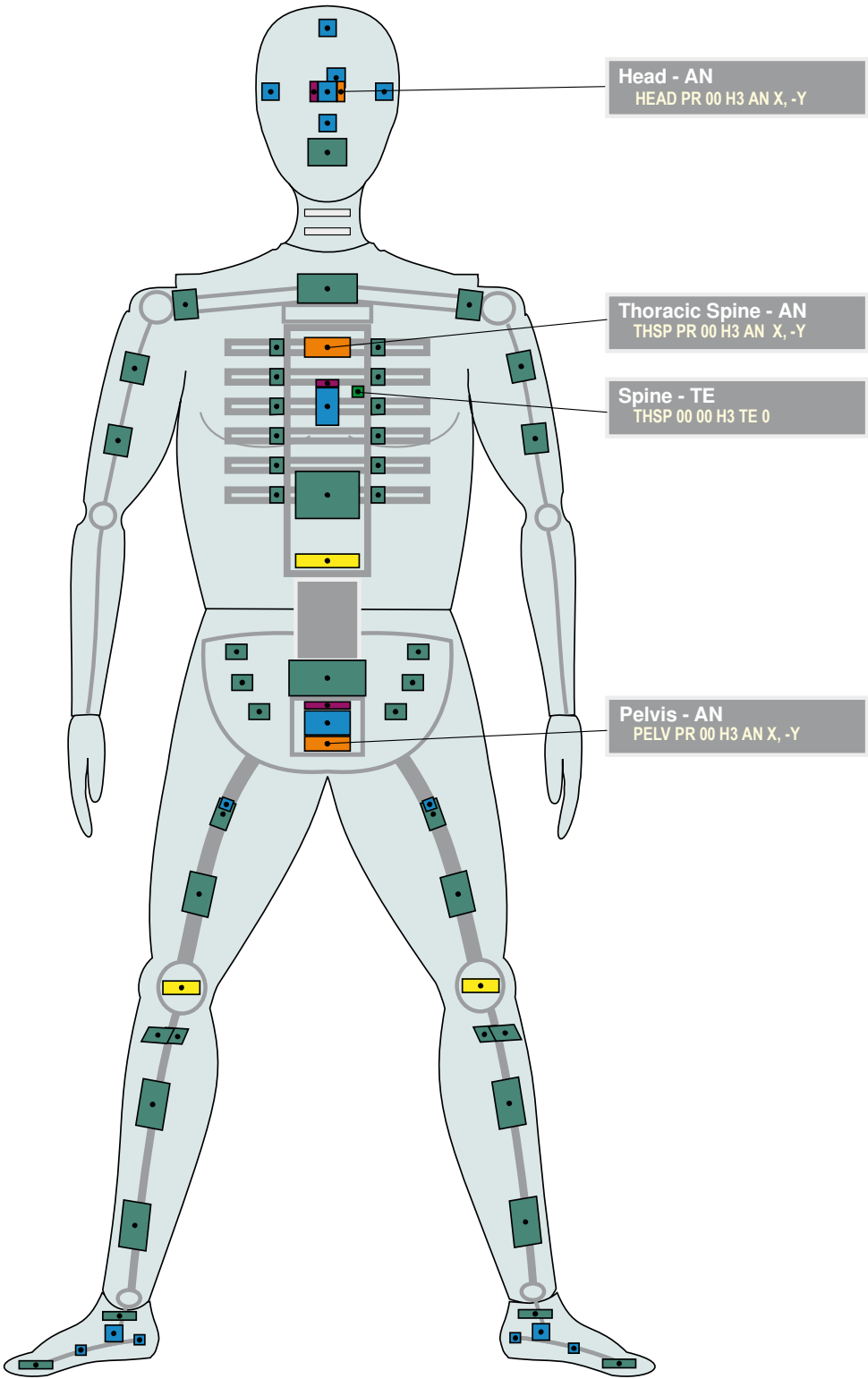
ISO-H3_20130410

H3 Hybrid III 50% Male (4)

Valid since Version 1.6.1



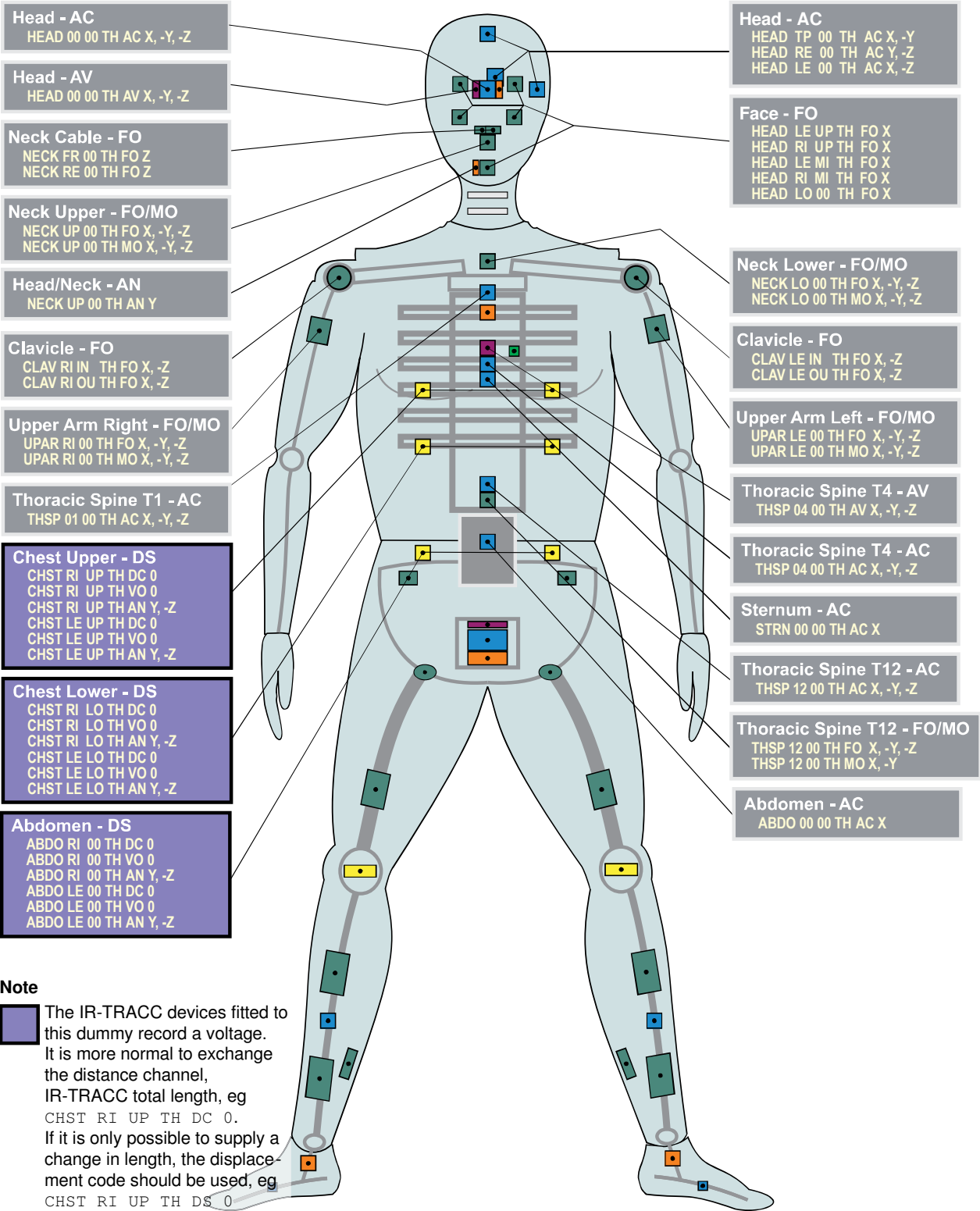
ISO/TS 13499 – RED C : 2012
H3, Hybrid III 50% male
Static measurements, other channels
2013-04-10



ISO-H3_20130410



ISO/TS 13499 – RED C : 2012
TH, THOR 50% male
Standard Instrumentation: Upper Body
2015-12-10



ISO-TH_20151210

TH

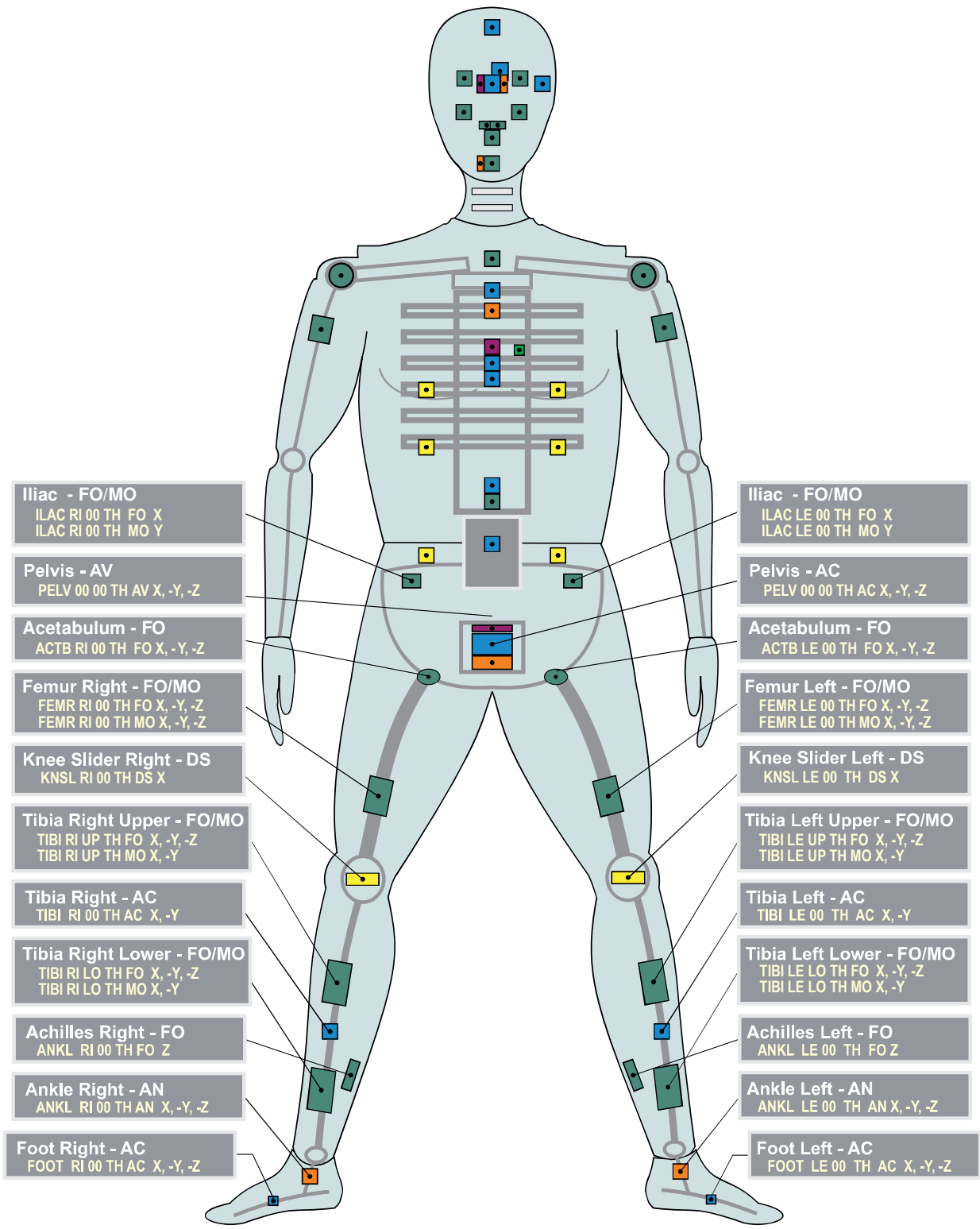
THOR 50th (2)

Valid since Version

1.6.2p1



ISO/TS 13499 – RED C : 2012
 TH, THOR 50% male
 Standard Instrumentation: Lower Body
 2015-12-10



ISO-TH_20151210

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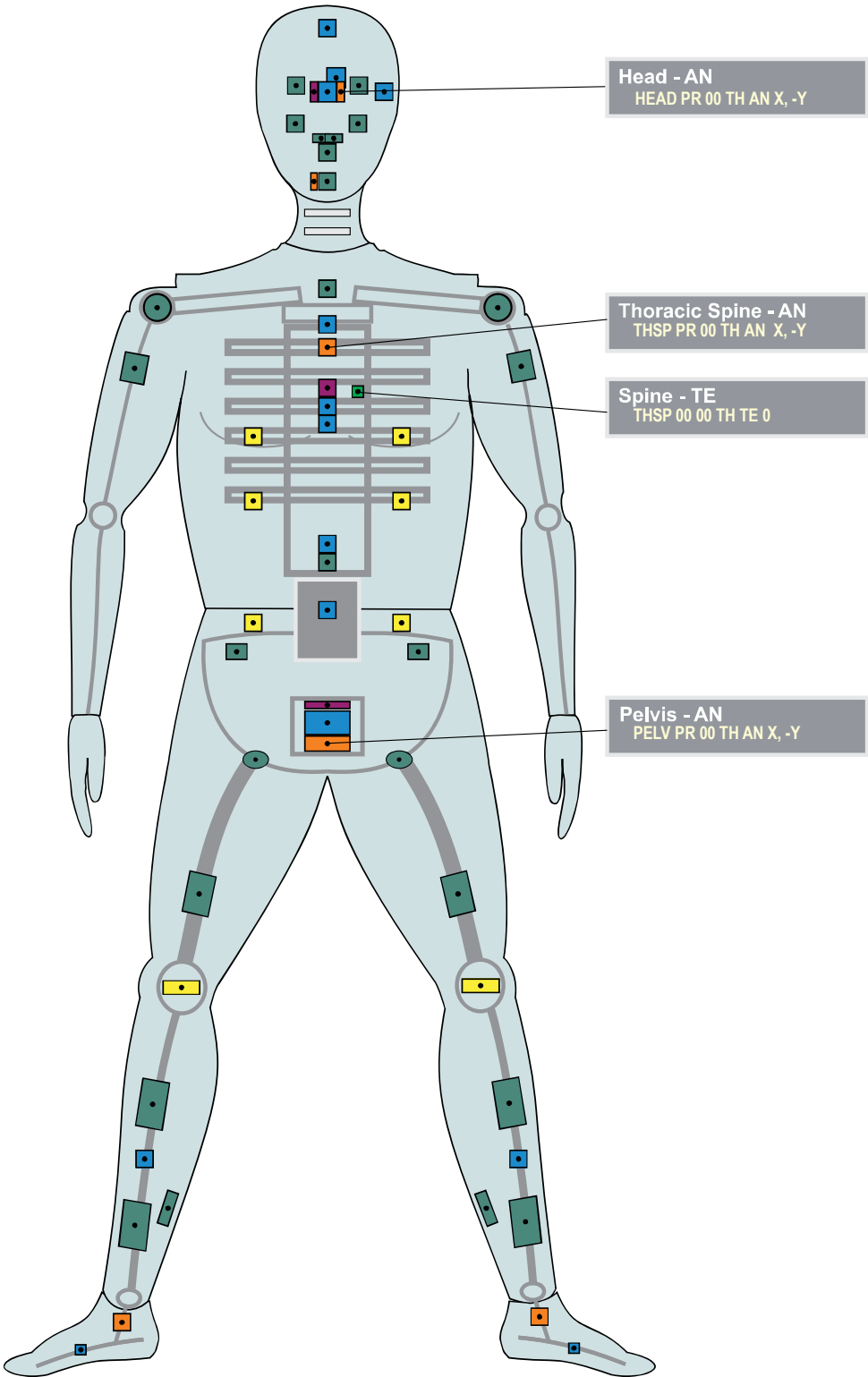
ISO TC 22 / SC 36 / WG 3 / ISO-MME Task Force
 Maintained by Paul Wellcome, HORIBA MIRA Ltd.

ISO_TH_2_162p1_20151210.EMF

-> TH <- 2 of 3



ISO/TS 13499 – RED C : 2012
TH, THOR 50% male
Static measurements, other channels
2015-12-10



ISO-TH_20151210

BR

BioRID (1)

Valid since Version

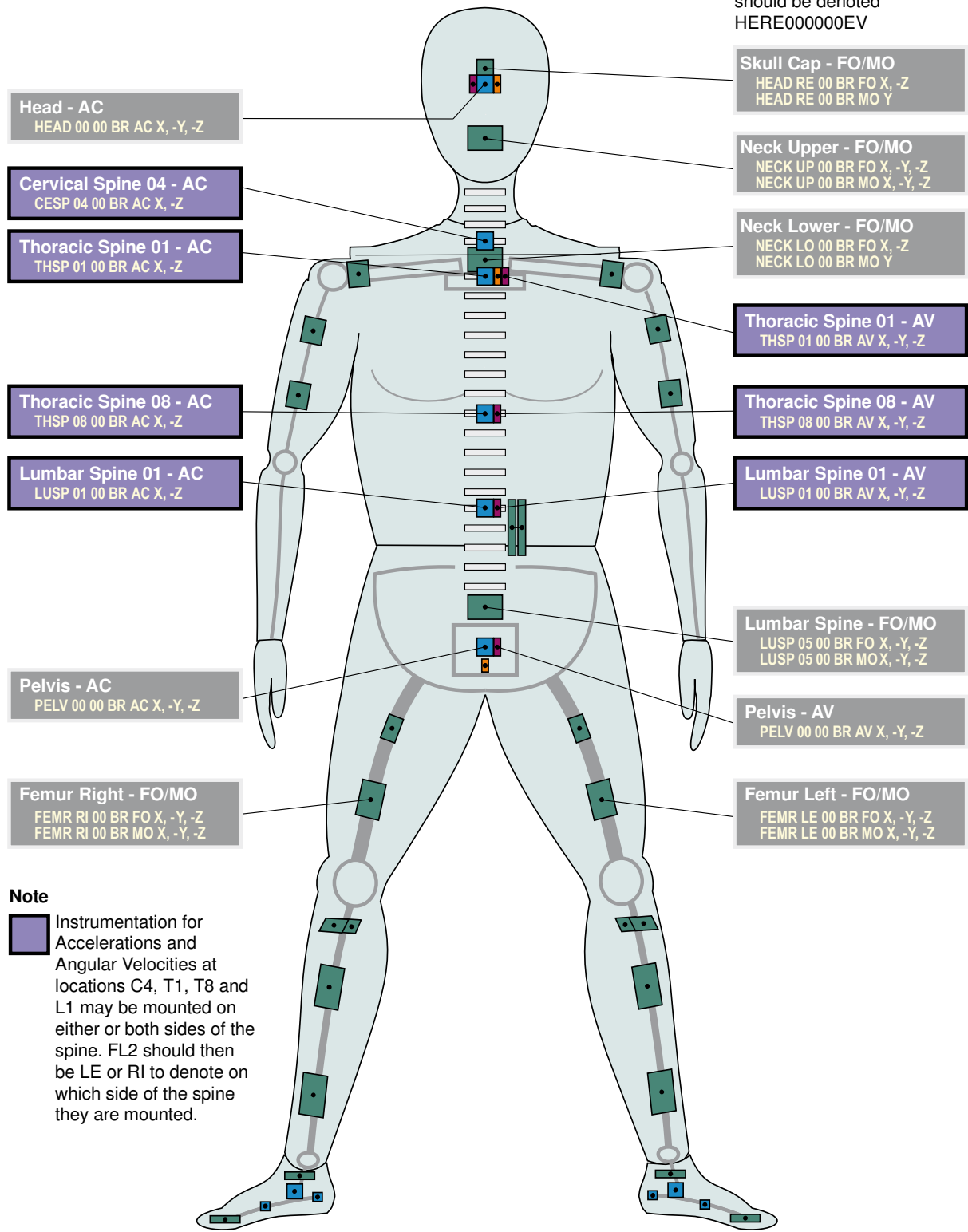
1.6.1



ISO/TS 13499 – RED C : 2012
BR, BioRID II 50% male
Standard Instrumentation
2013-07-10

Note

The Skull Cap to Headrest contact event (not shown) should be denoted
HERE000000EV



Note

Instrumentation for Accelerations and Angular Velocities at locations C4, T1, T8 and L1 may be mounted on either or both sides of the spine. FL2 should then be LE or RI to denote on which side of the spine they are mounted.

ISO-BR_20130710

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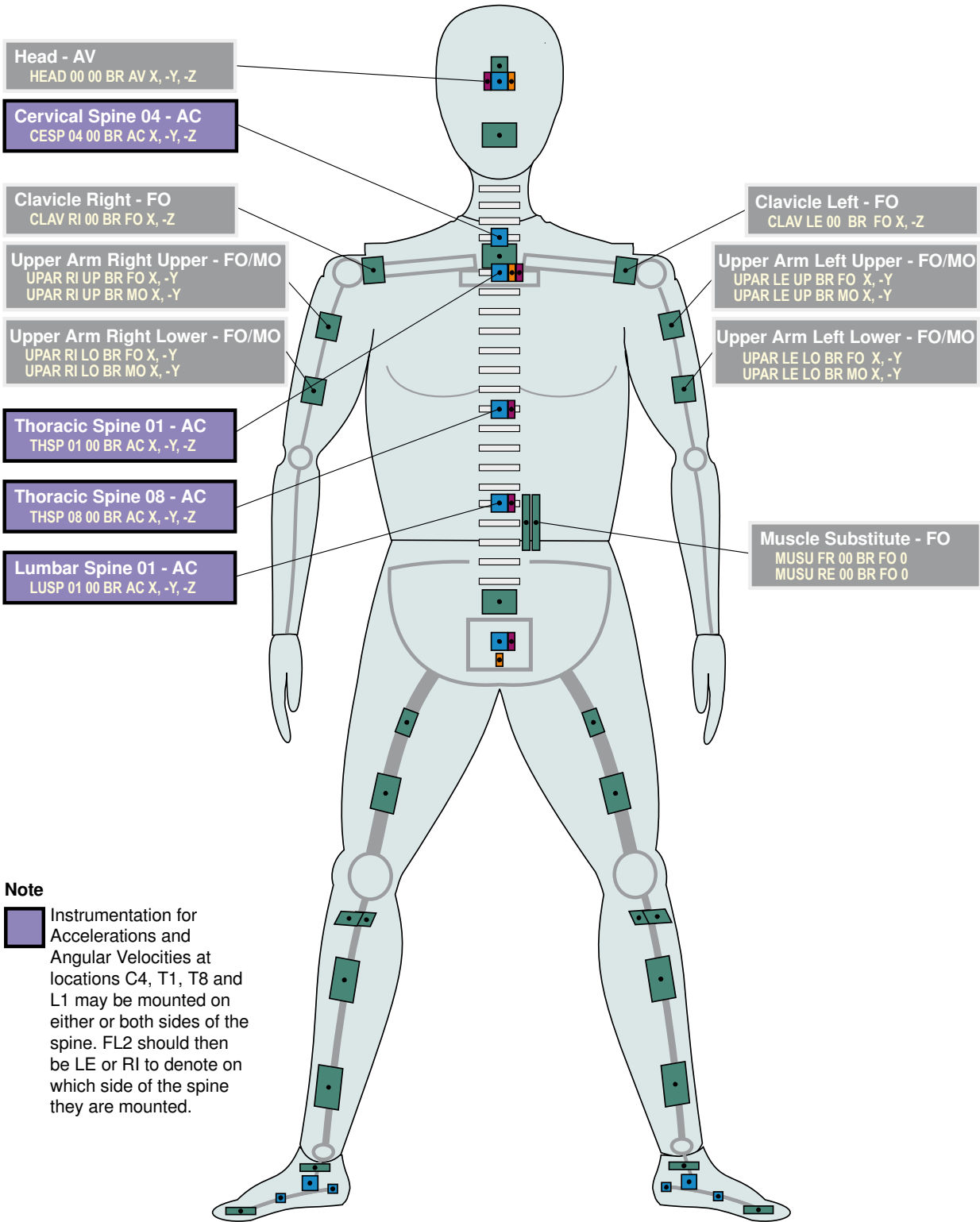
ISO TC 22 / SC 12 / WG 3 / ISO-MME Task Force¹
Maintained by Paul Wellicome, MIRA Ltd.

ISO_BR_1_161_20130710.EMF

-> BR <- 1 of 4



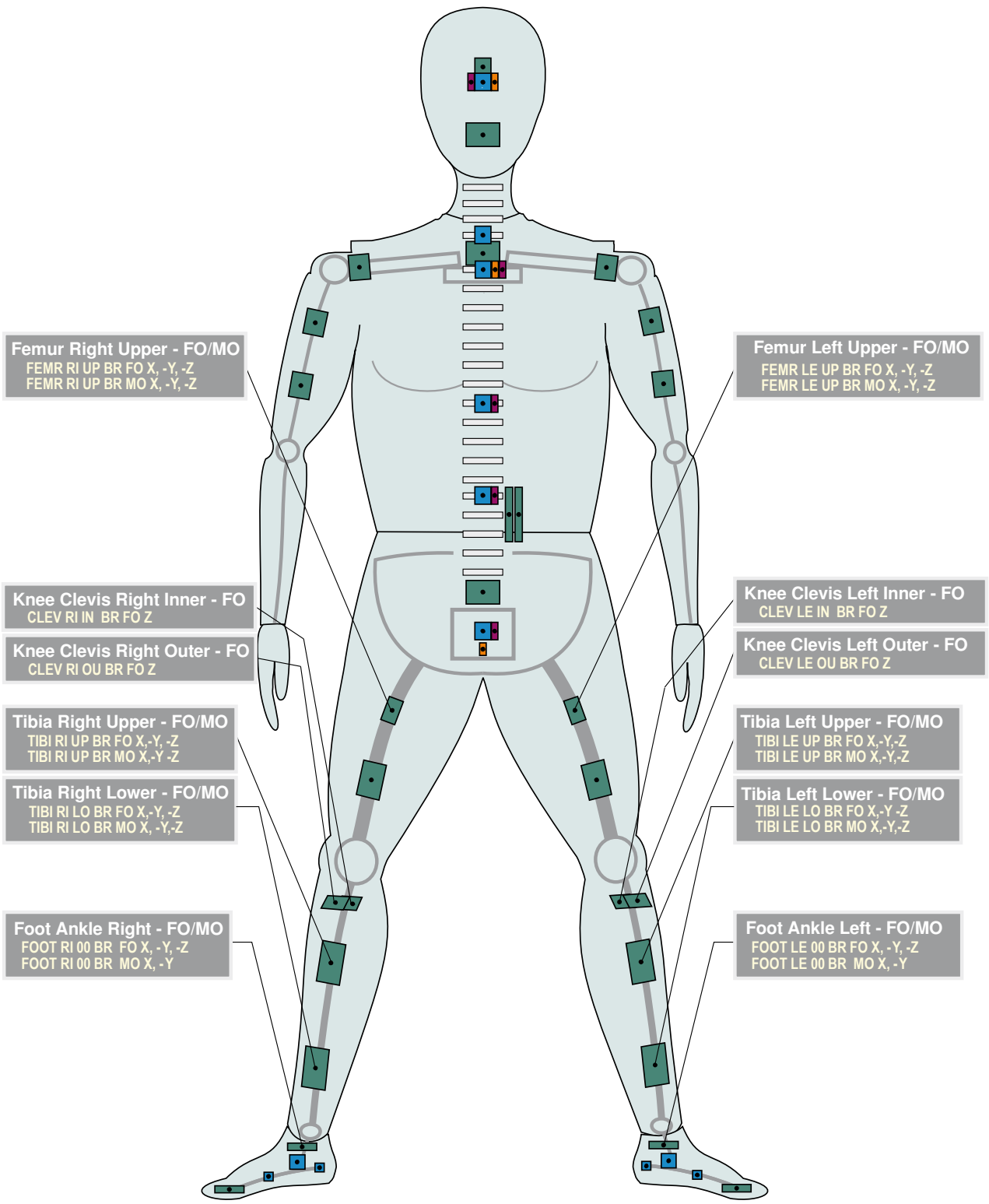
ISO/TS 13499 – RED C : 2012
BR, BioRID II 50% male
Additional Instrumentation - Upper Torso
2013-07-10



ISO-BR_20130710



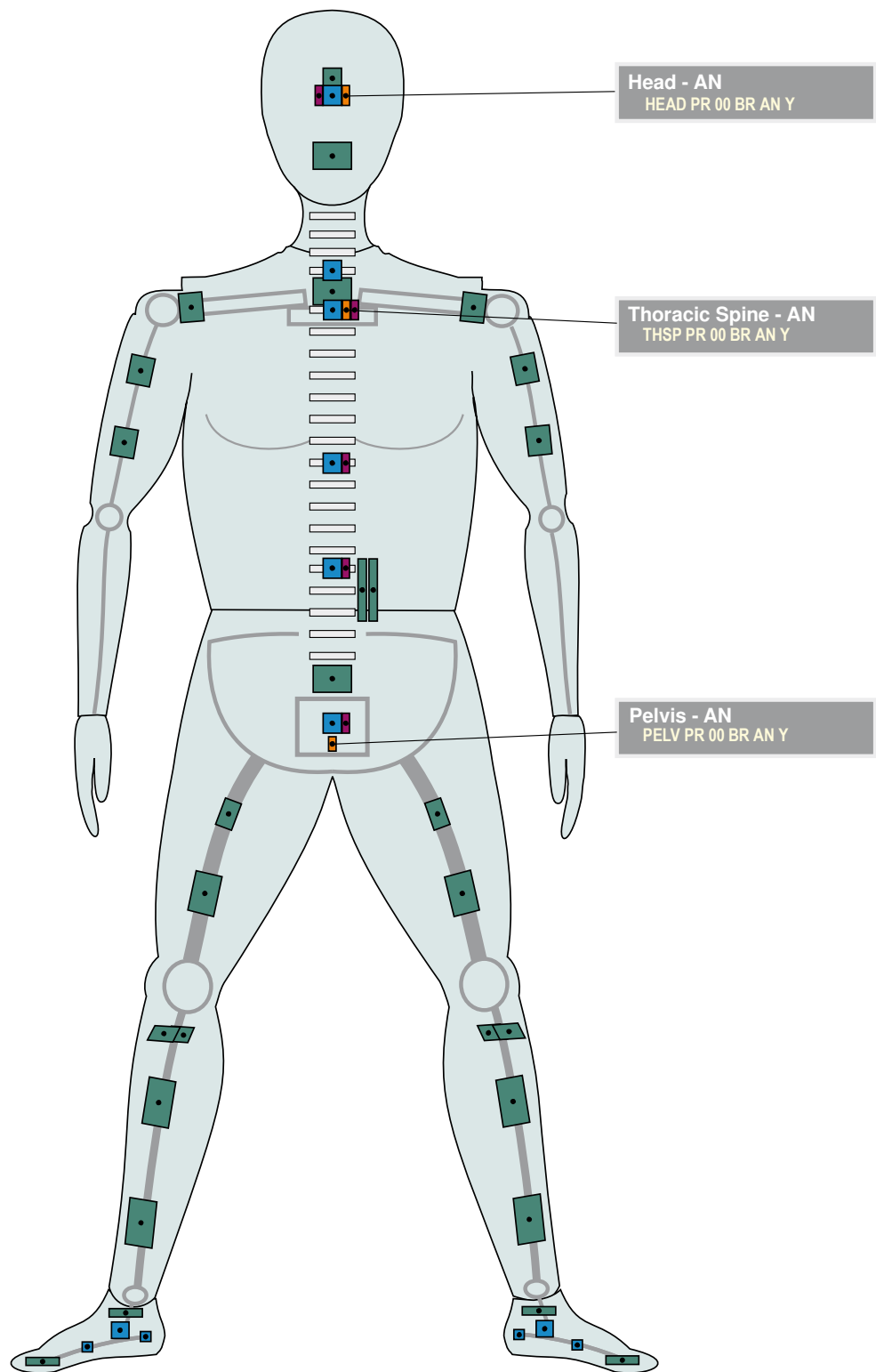
ISO/TS 13499 – RED C : 2012
 BR, BioRID II 50% male
 Additional Instrumentation - Legs
 2013-07-10

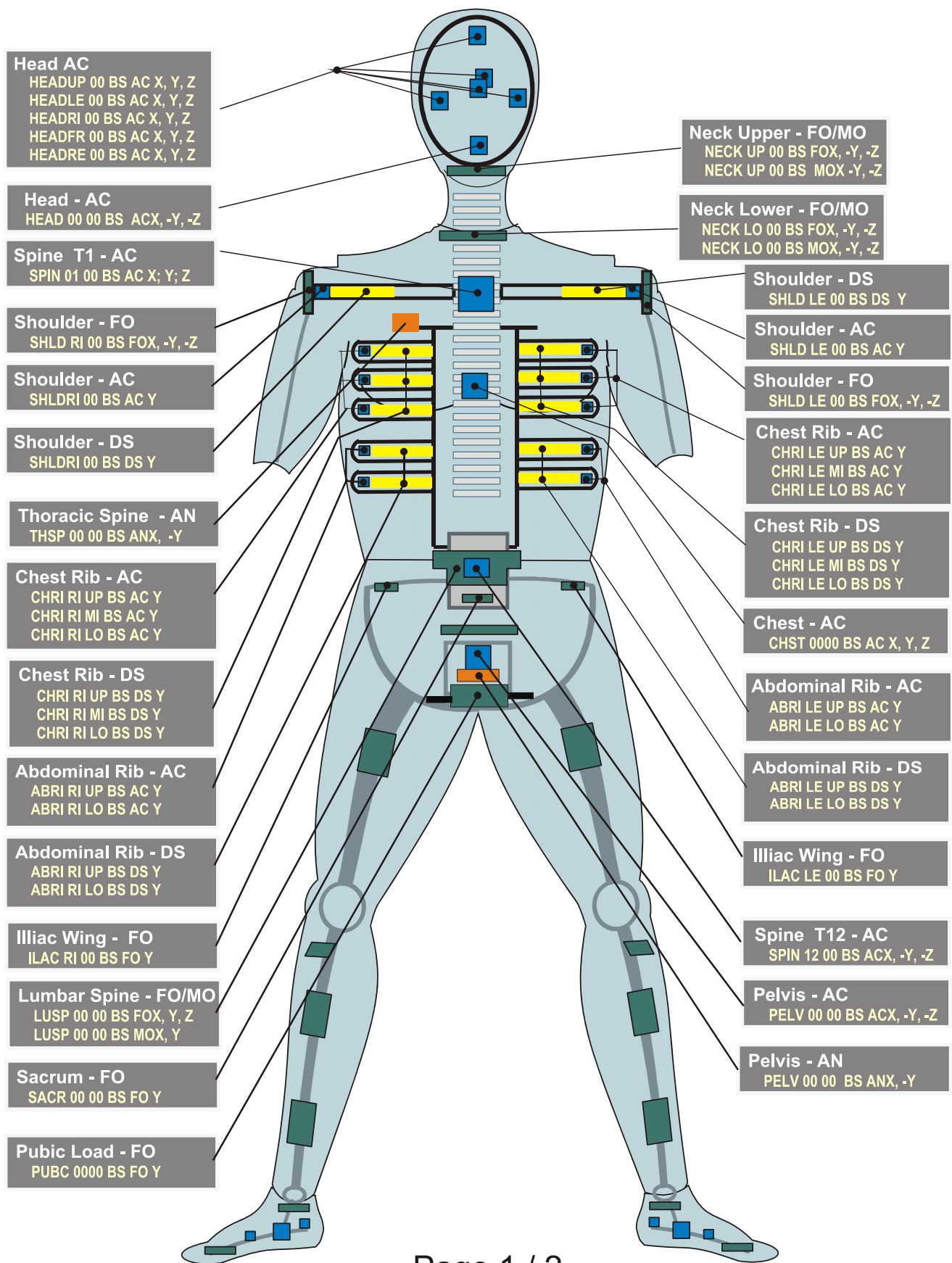


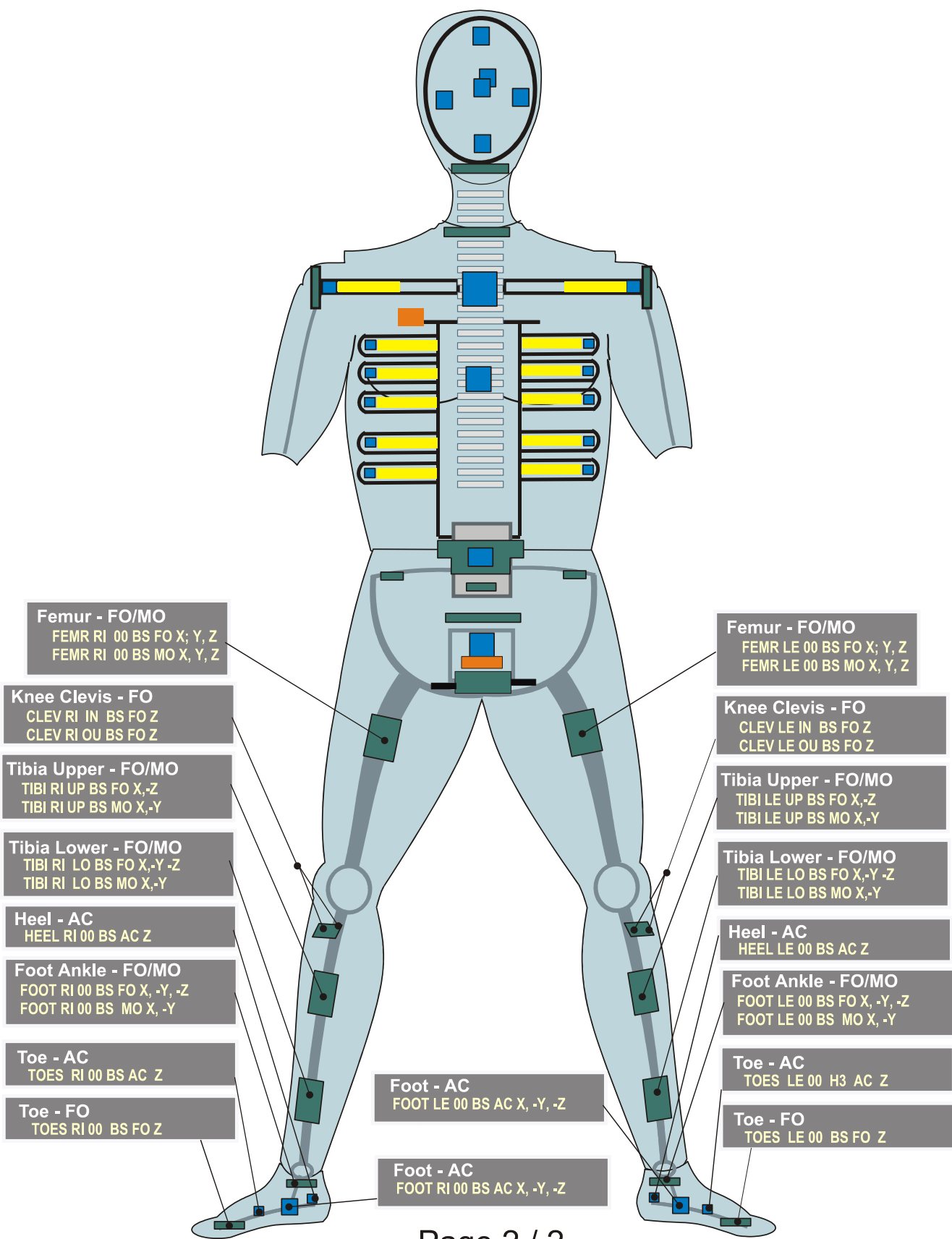
ISO-BR_20130710

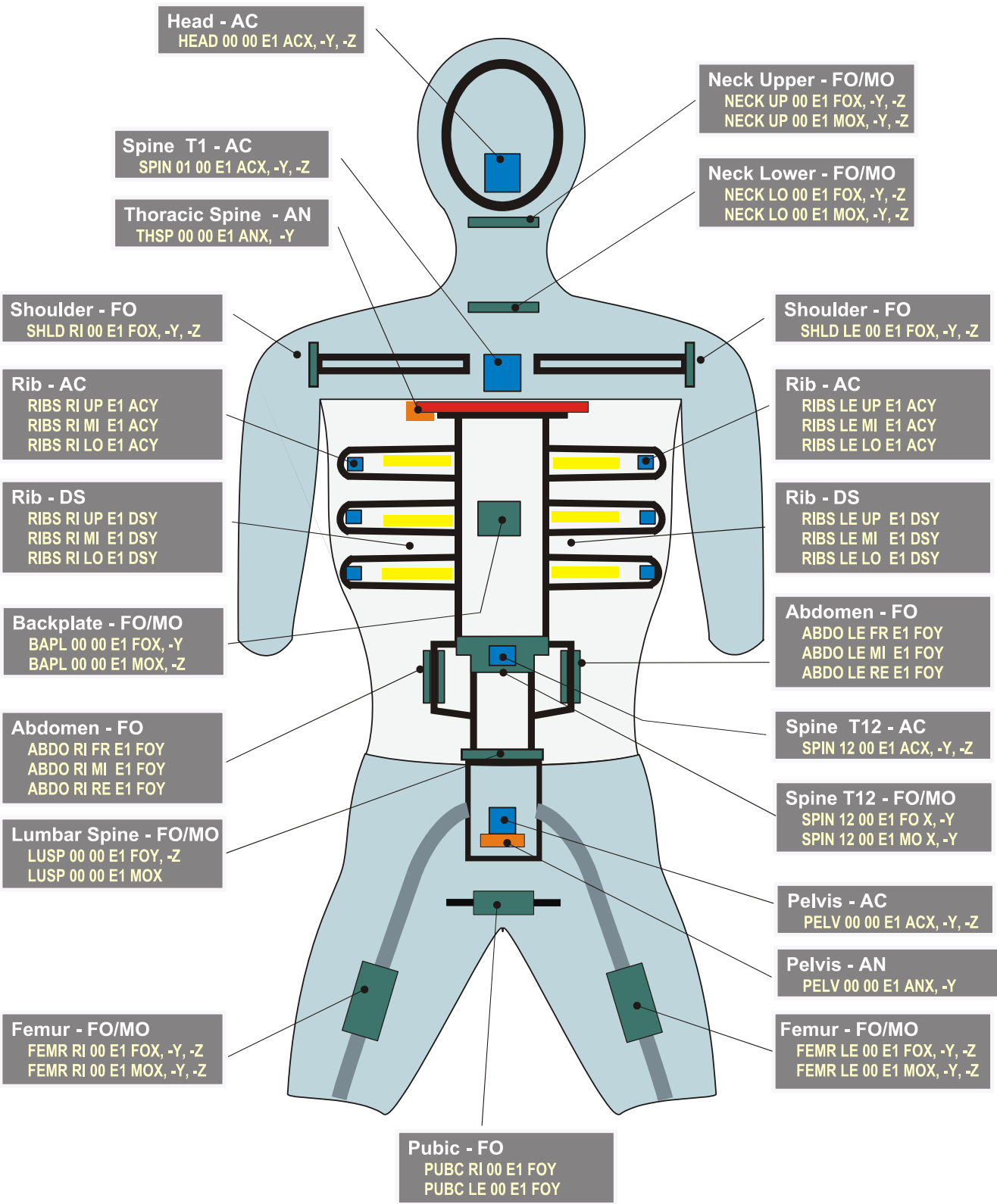


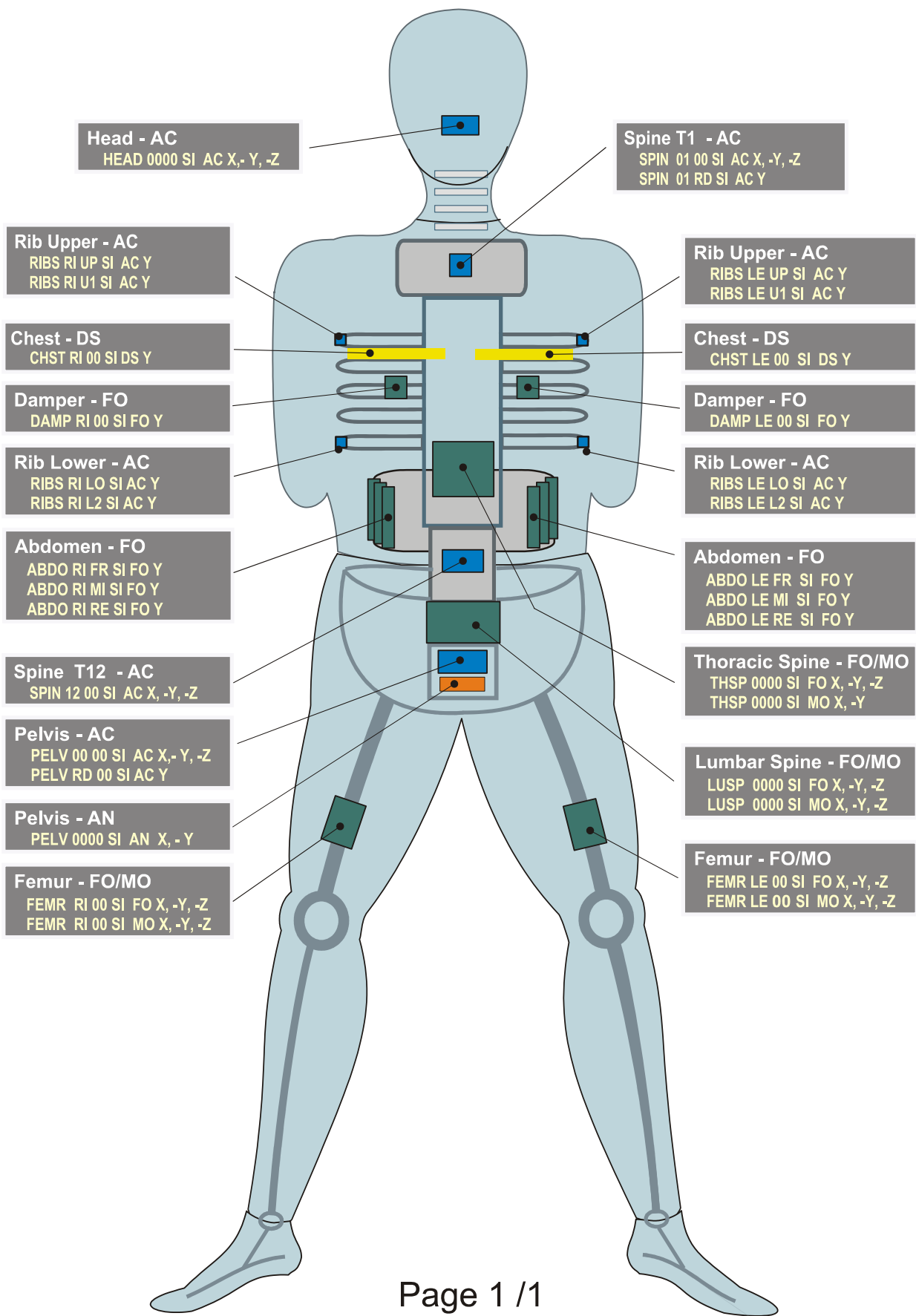
ISO/TS 13499 – RED C : 2012
BR, BioRID II 50% male
Static measurements, other channels
2013-07-10











E2+ER ES-2 & ES-2re (1)

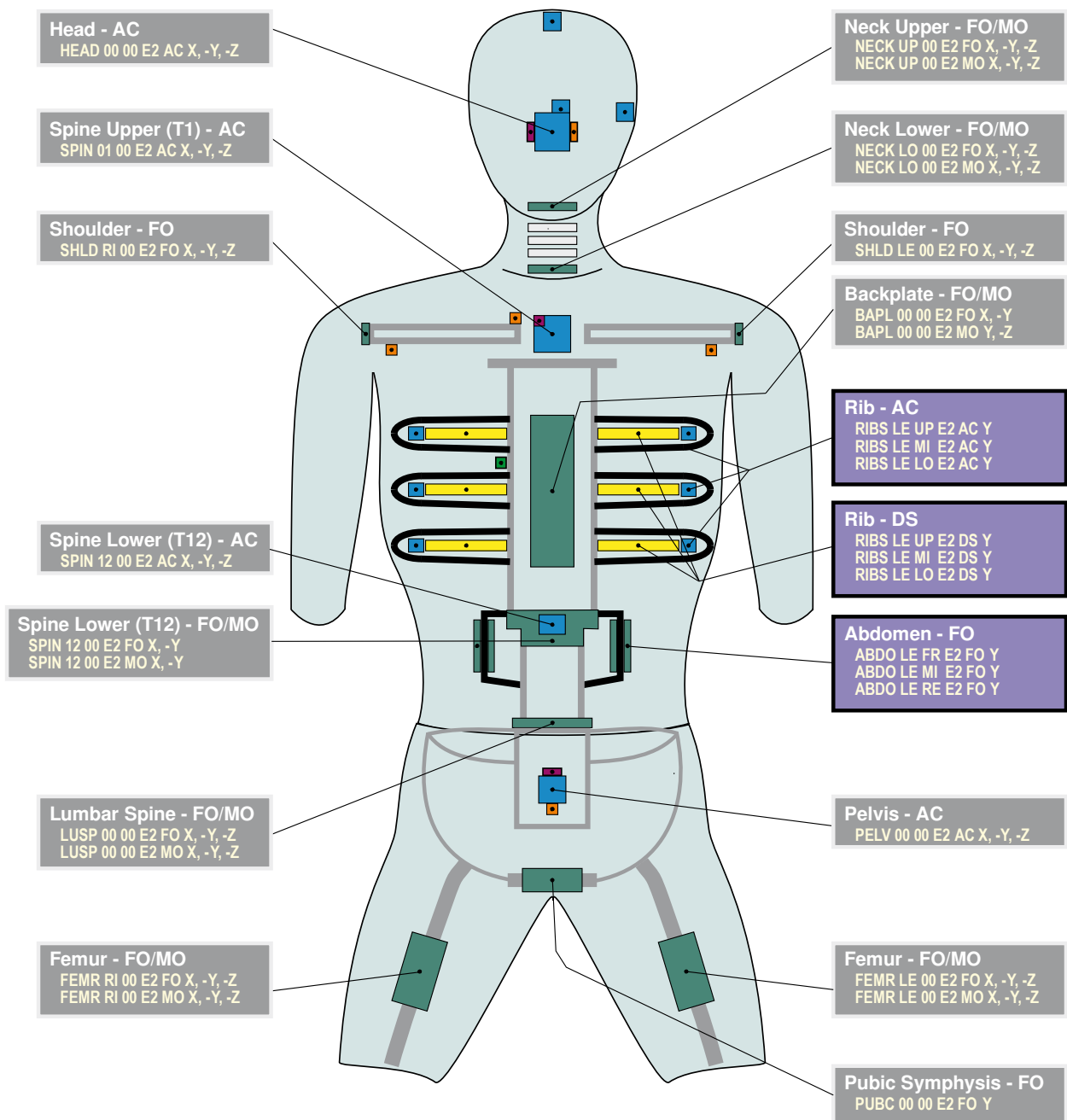
Valid since Version

1.6.1



ISO/TS 13499 – RED C : 2012(E)
E2, ES-2 dummy
ER, ES2 Dummy with Rib Extension
Standard Instrumentation
2013-04-10

Note: For ER dummy, FL3 will read ER



Left Side Impact, Front-View

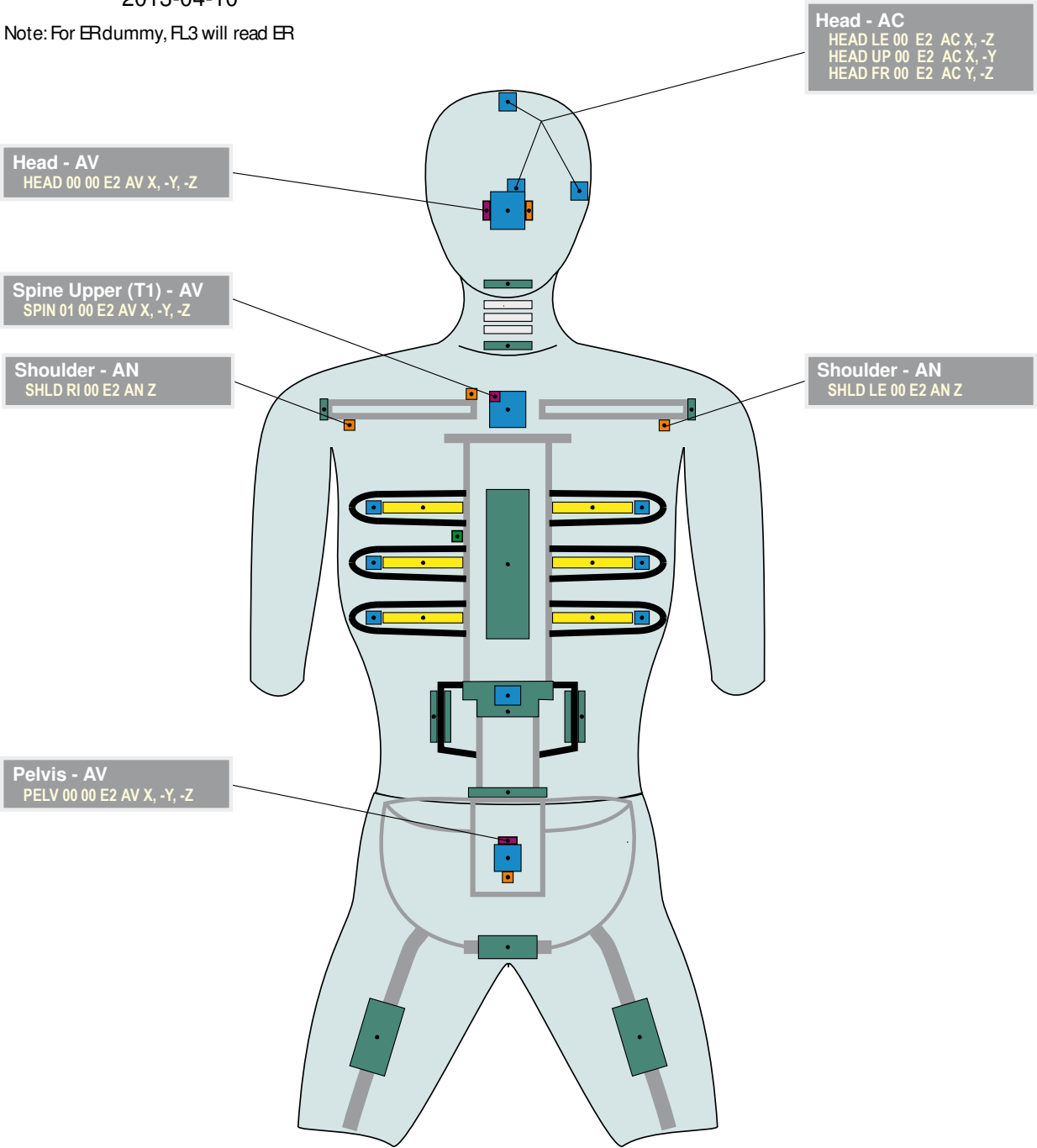
Note that sensor locations and ISO Codes are different for right side impact.

ISO-E2_20130410



ISO/TS 13499 – RED C : 2012(E)
E2, ES-2 dummy
ER, ES2 Dummy with Rib Extension
Additional Instrumentation
2013-04-10

Note: For ERdummy, FL3 will read ER



E2+ER ES-2 & ES-2re (3)

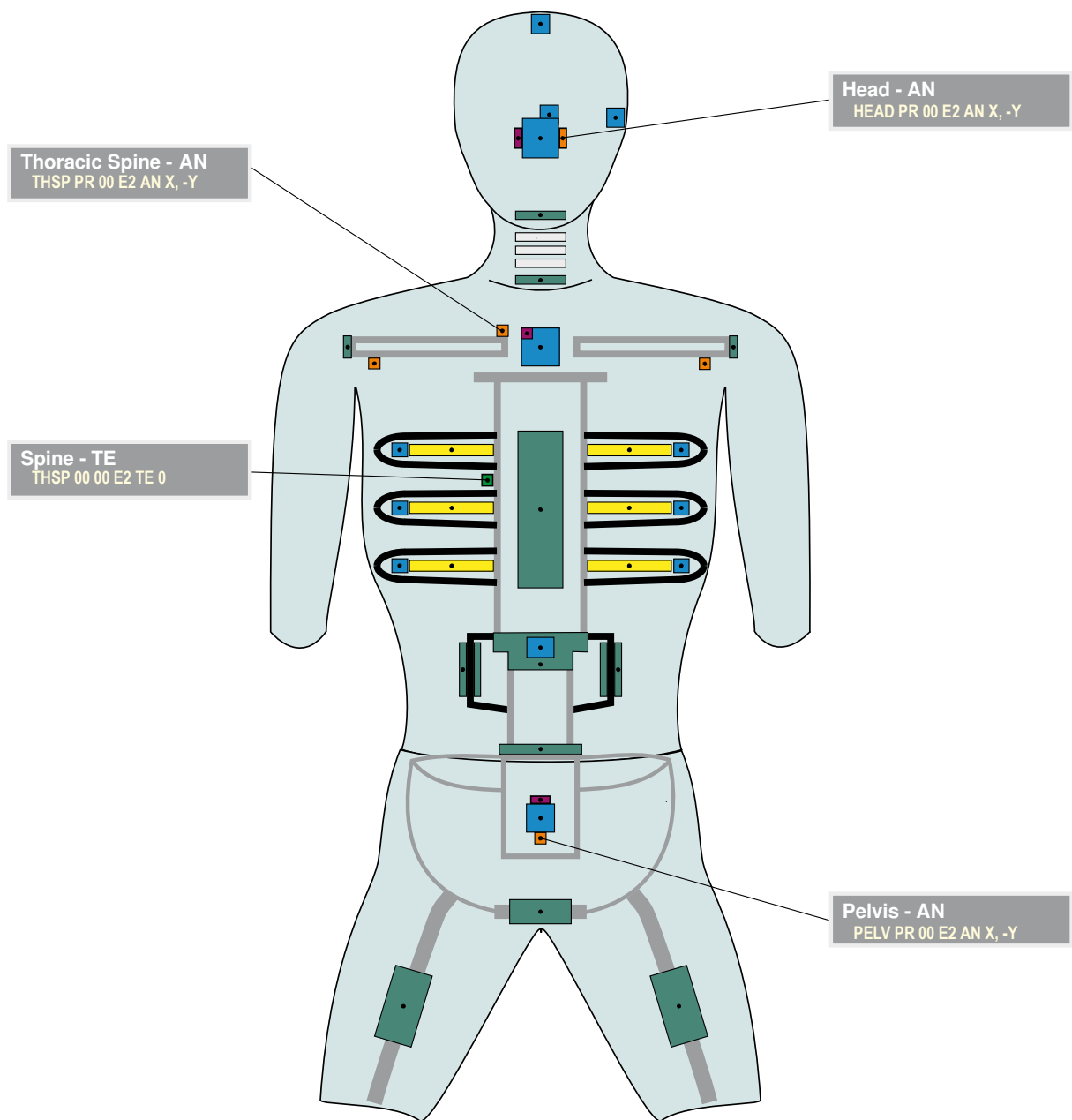
Valid since Version

1.6.1



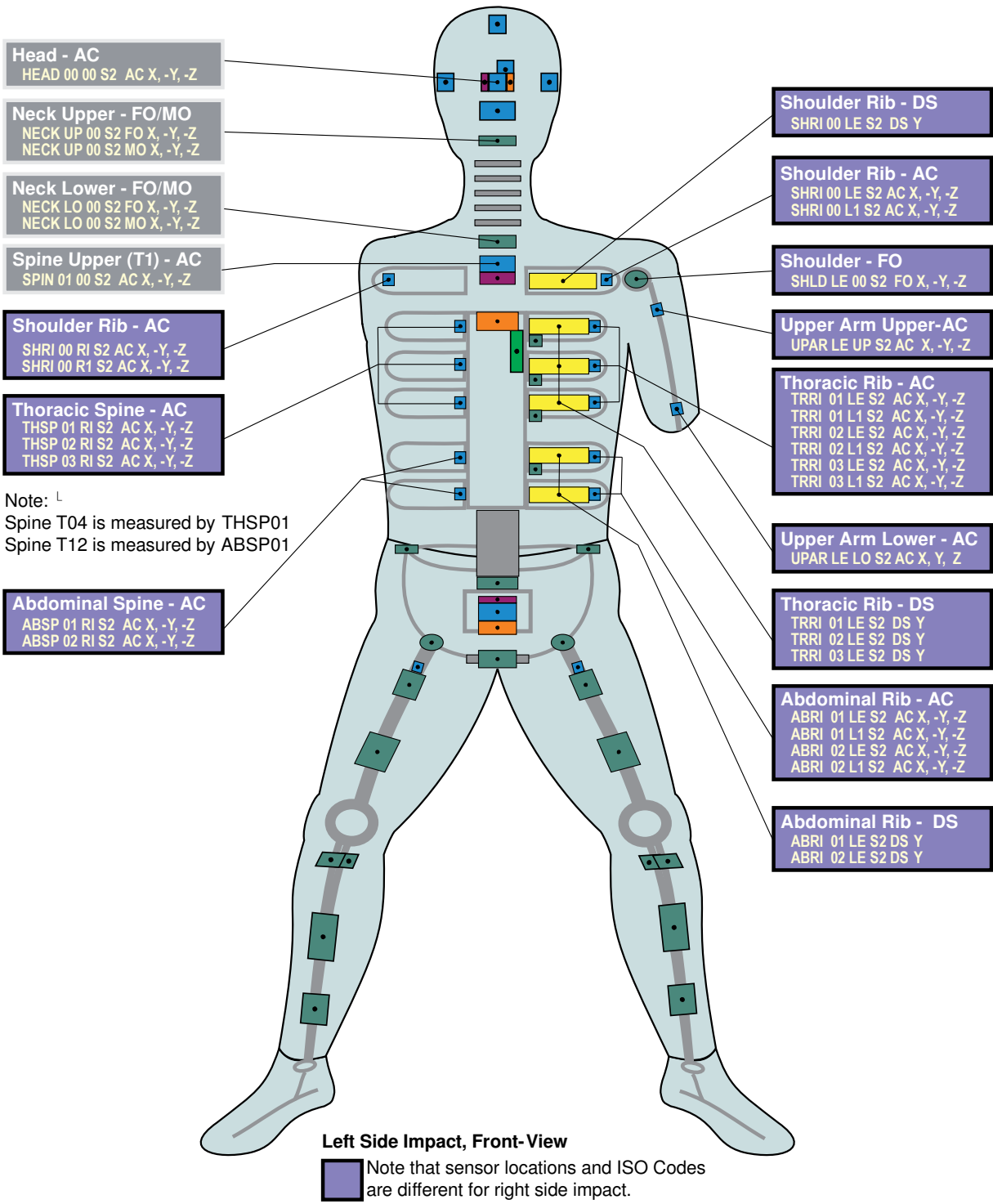
ISO/TS 13499 – RED C : 2012(E)
E2, ES-2 dummy
ER, ES2 Dummy with Rib Extension
Static measurements, other channels
2013-04-10

Note: For ERdummy, FL3 will read ER





ISO/TS 13499 – RED C : 2012(E)
S2, SID IIs
Standard Instrumentation (upper body)
2013-04-09



S2

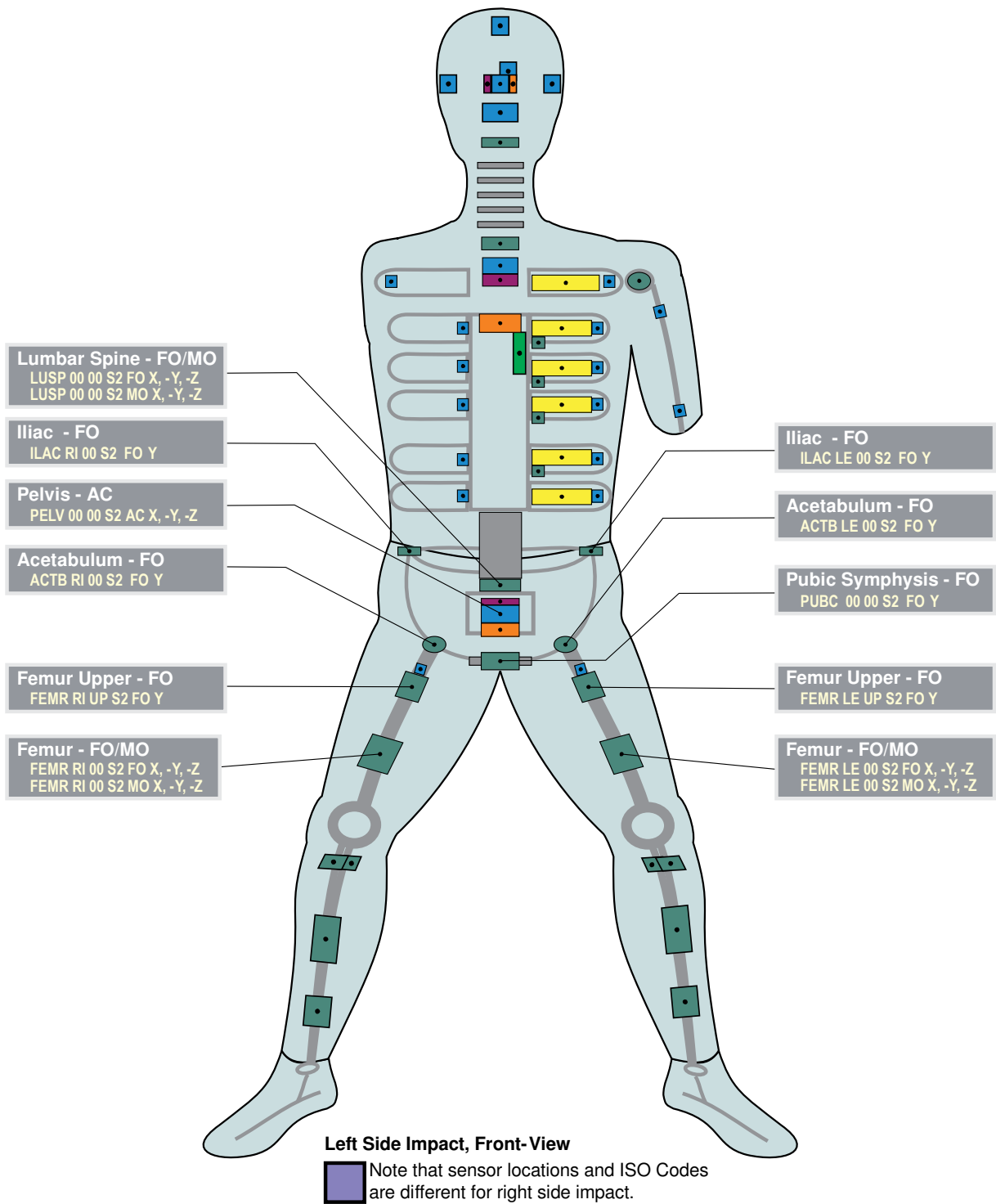
SID IIs (2)

Valid since Version

1.6.1



ISO/TS 13499 – RED C : 2012(E)
S2, SID IIs
Standard Instrumentation (lower body)
2013-04-09



ISO-S2_20140409

Page 2 of 5

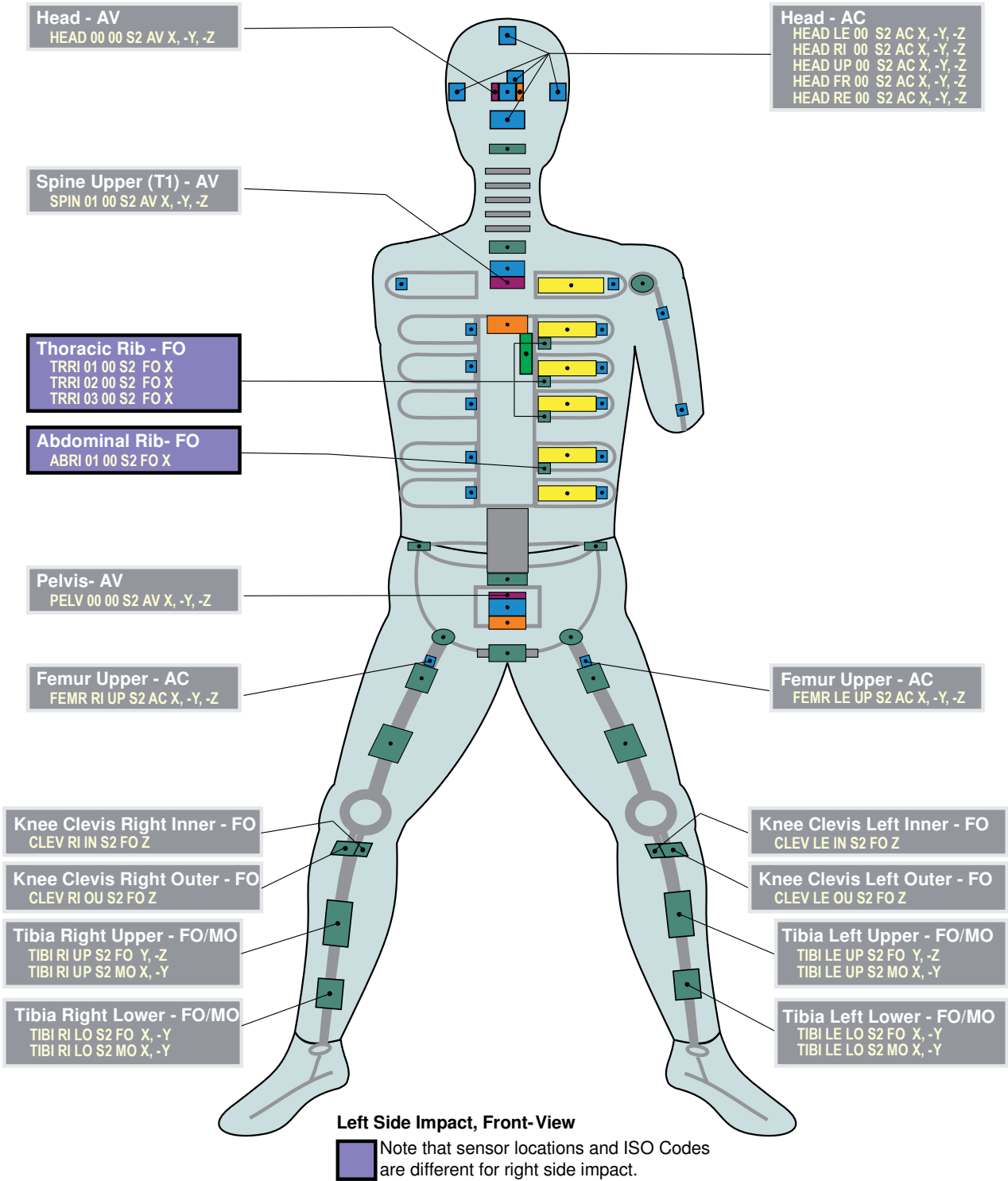
ISO TC 22 / SC 12 / WG 3 / ISO-MME Task Force¹
Maintained by Paul Wellicome, MIRA Ltd.

ISO_S2_2_161_20140409.EMF

-> S2 <- 2 of 5



ISO/TS 13499 – RED C : 2012(E)
S2, SID IIs
Additional Instrumentation
2013-04-09

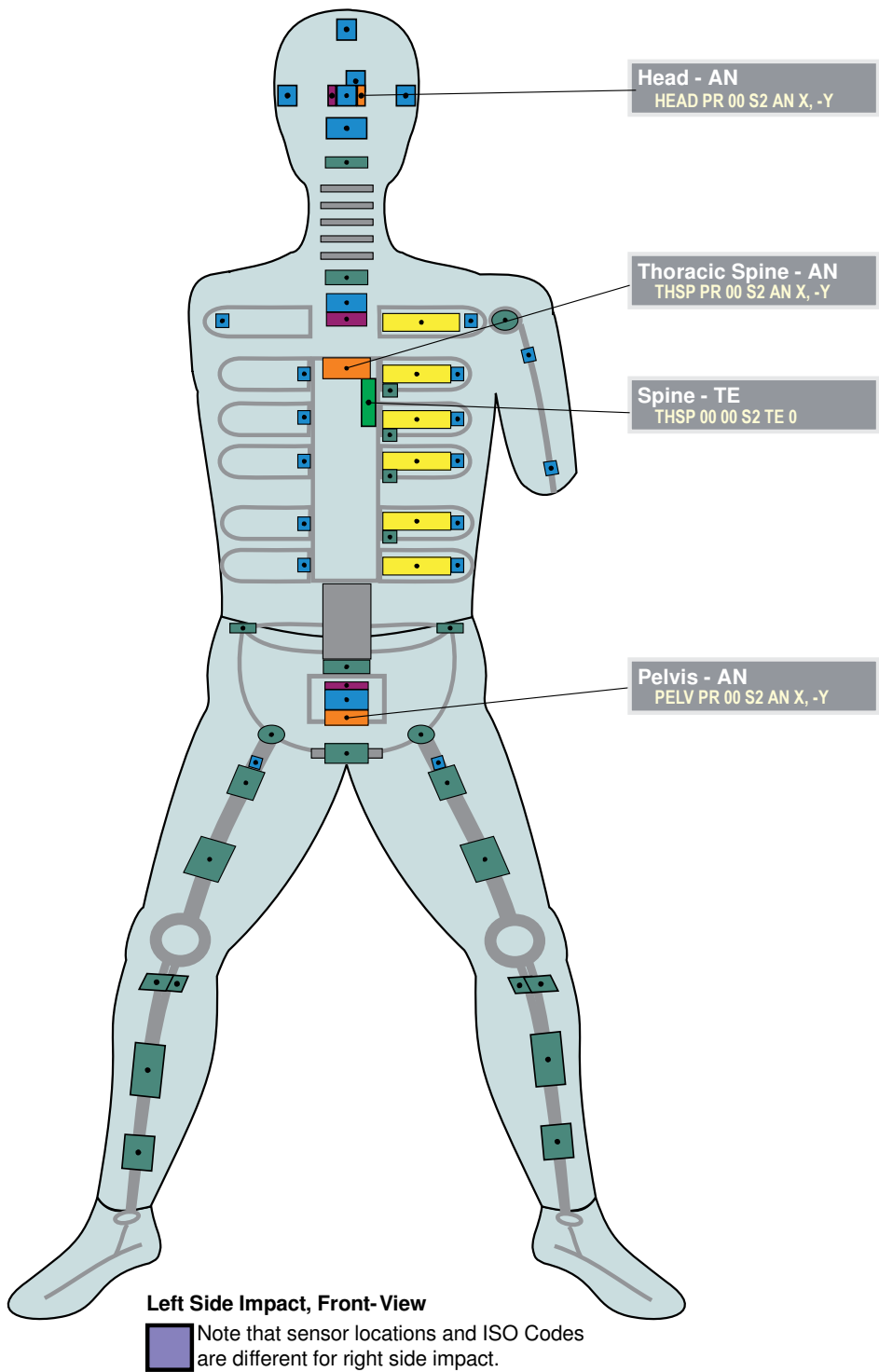


S2 SID IIs (4)

Valid since Version 1.6.1



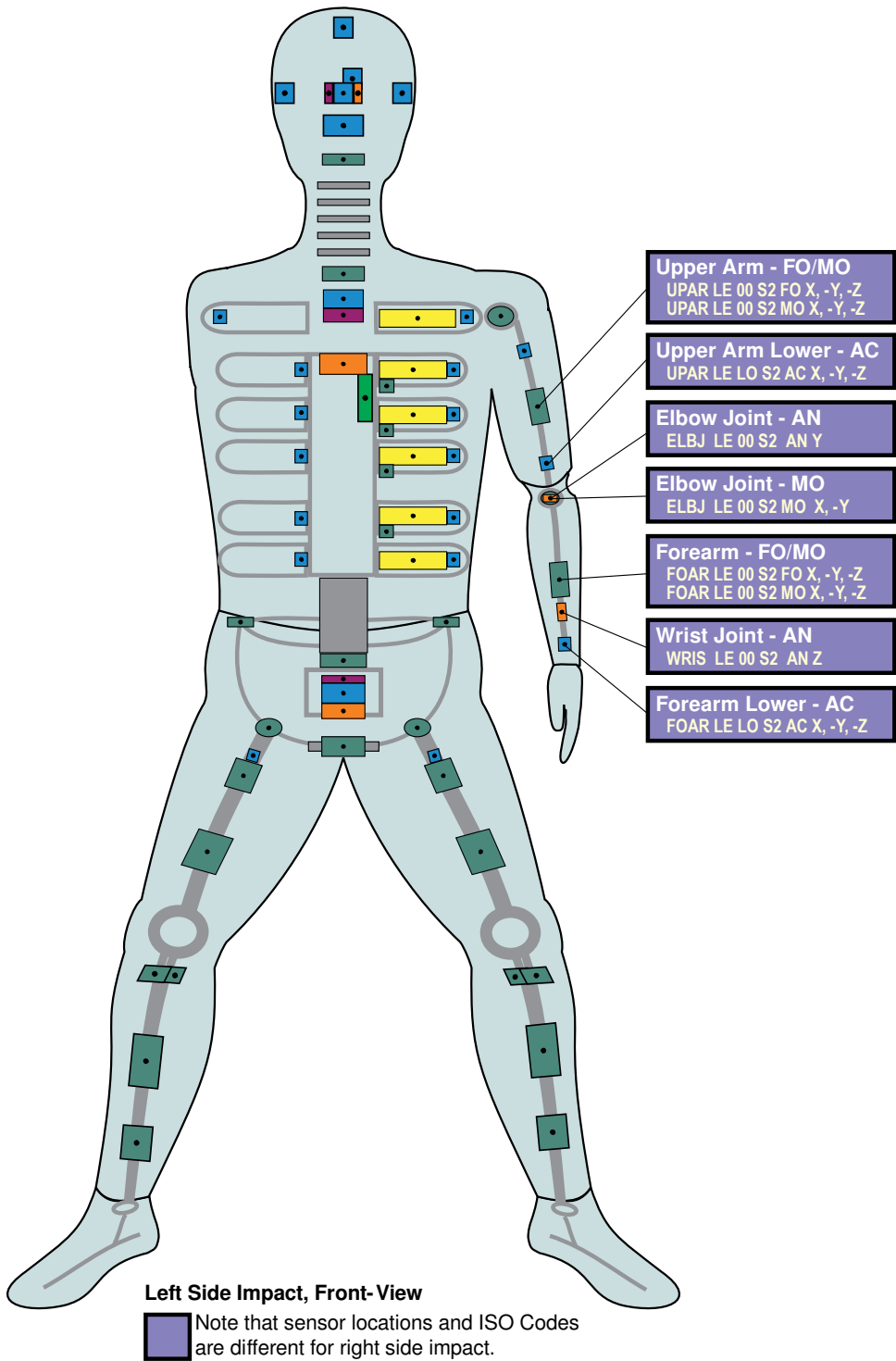
ISO/TS 13499 – RED C : 2012(E)
S2, SID IIs
Static measurements, other channels
2013-04-09



ISO-S2_20140409

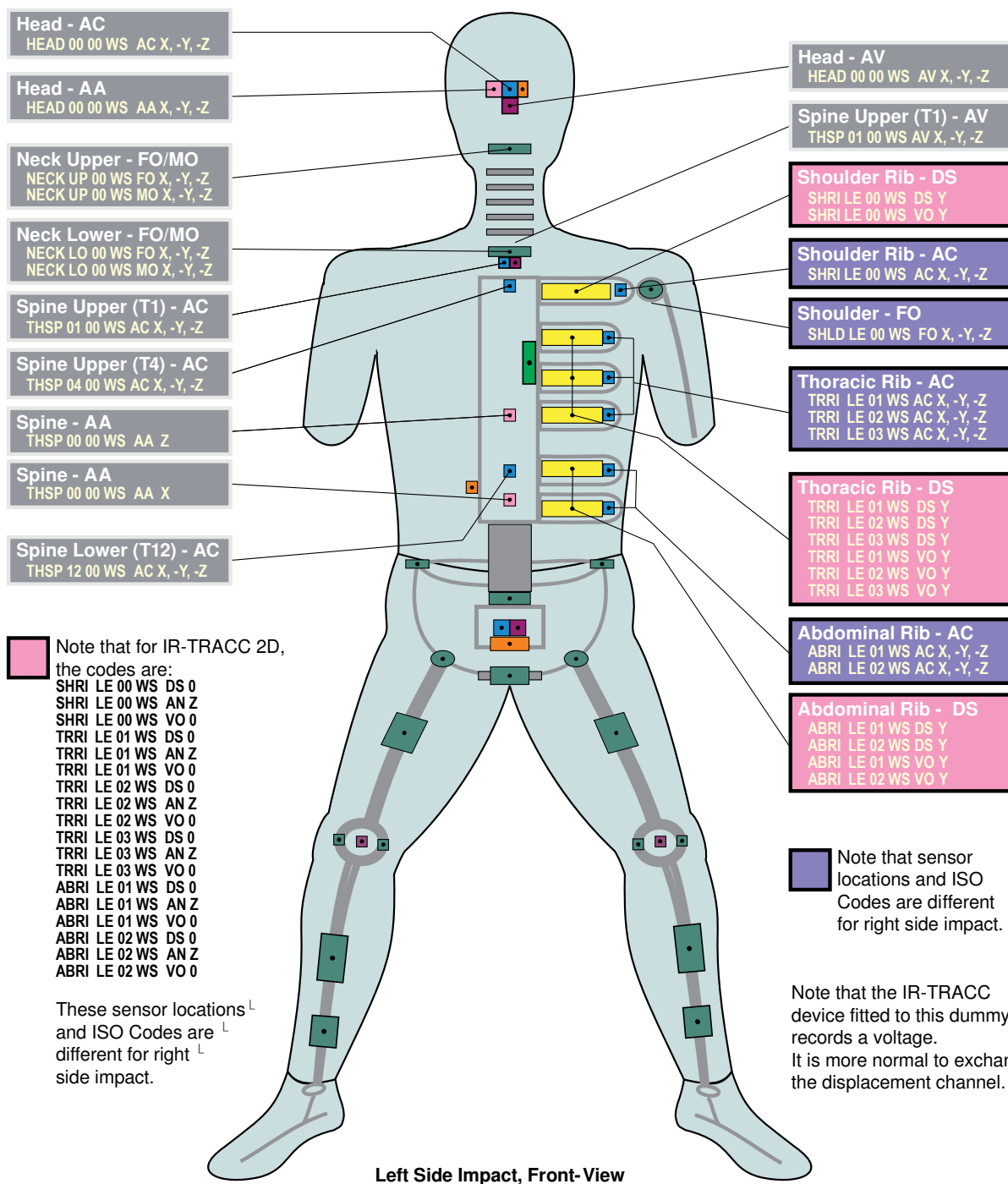


ISO/TS 13499 – RED C : 2012(E)
S2, SID IIs
Additional Instrumentation: Instrumented arm
2013-04-09



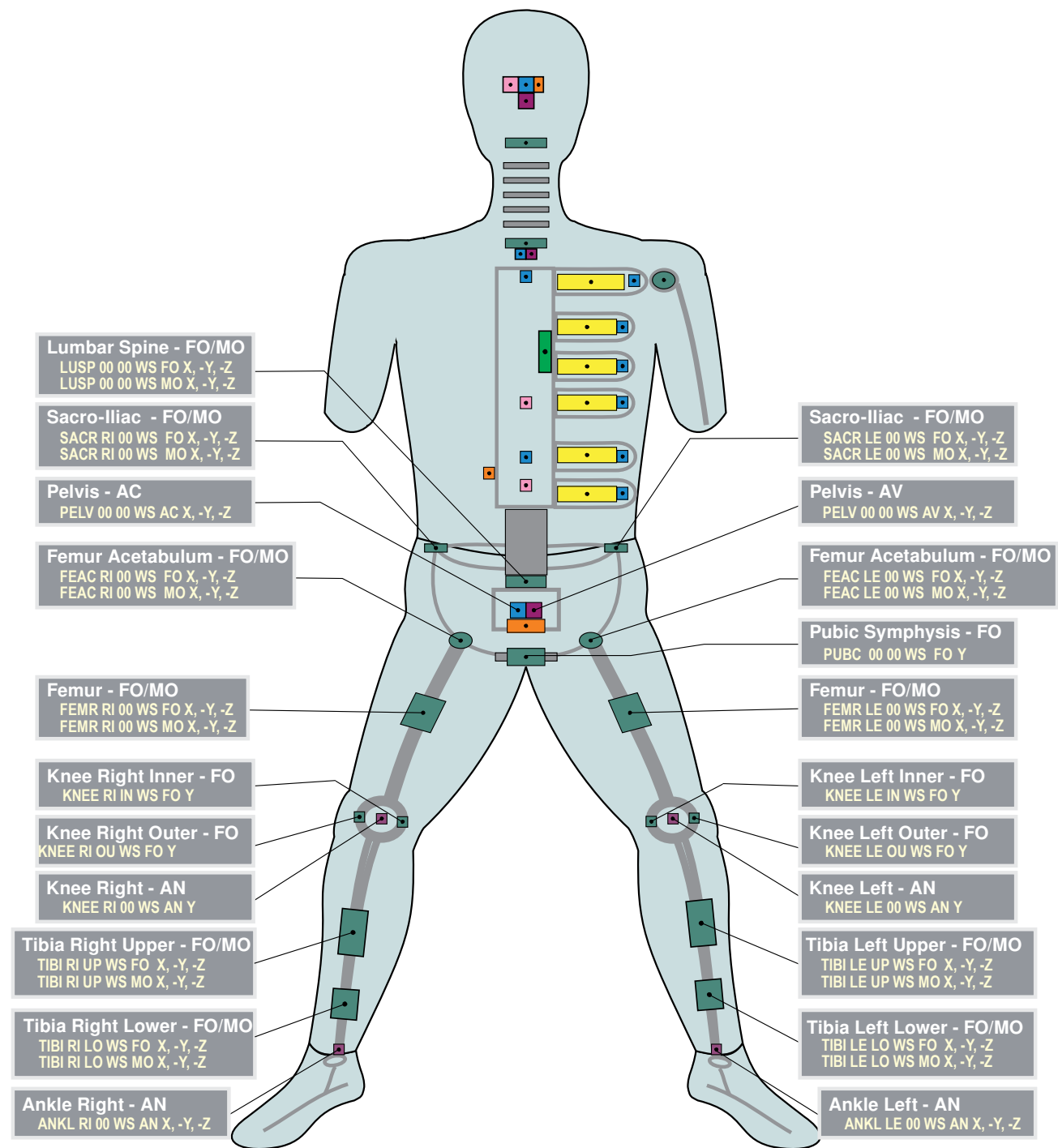


ISO/TS 13499 – RED C : 2012(E)
WS, WorldSID 50th percentile dummy
Standard Instrumentation (upper body)
2014-03-10



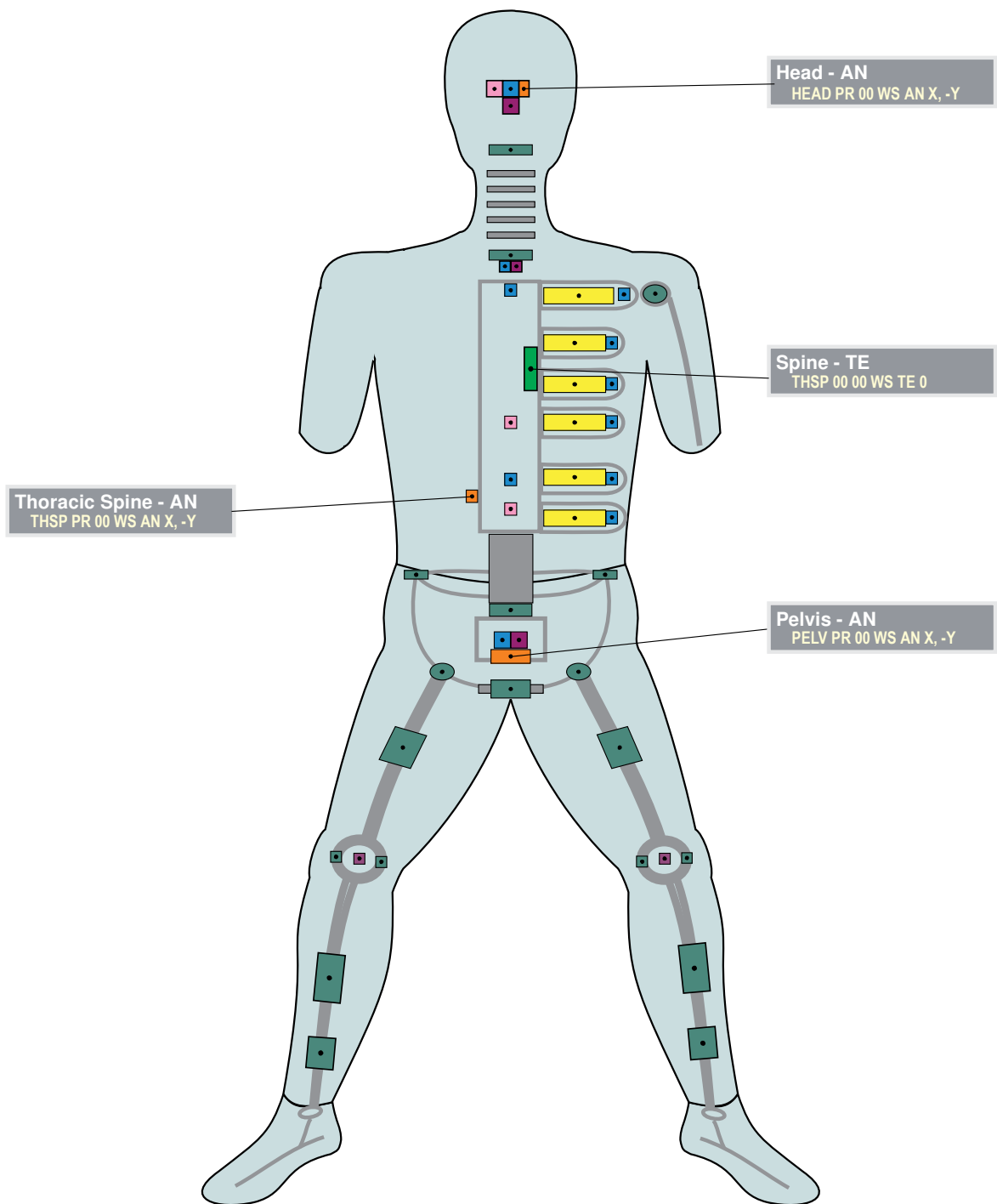


ISO/TS 13499 – RED C : 2012(E)
WS, WorldSID 50th percentile dummy
Standard Instrumentation (lower body)
2014-03-10



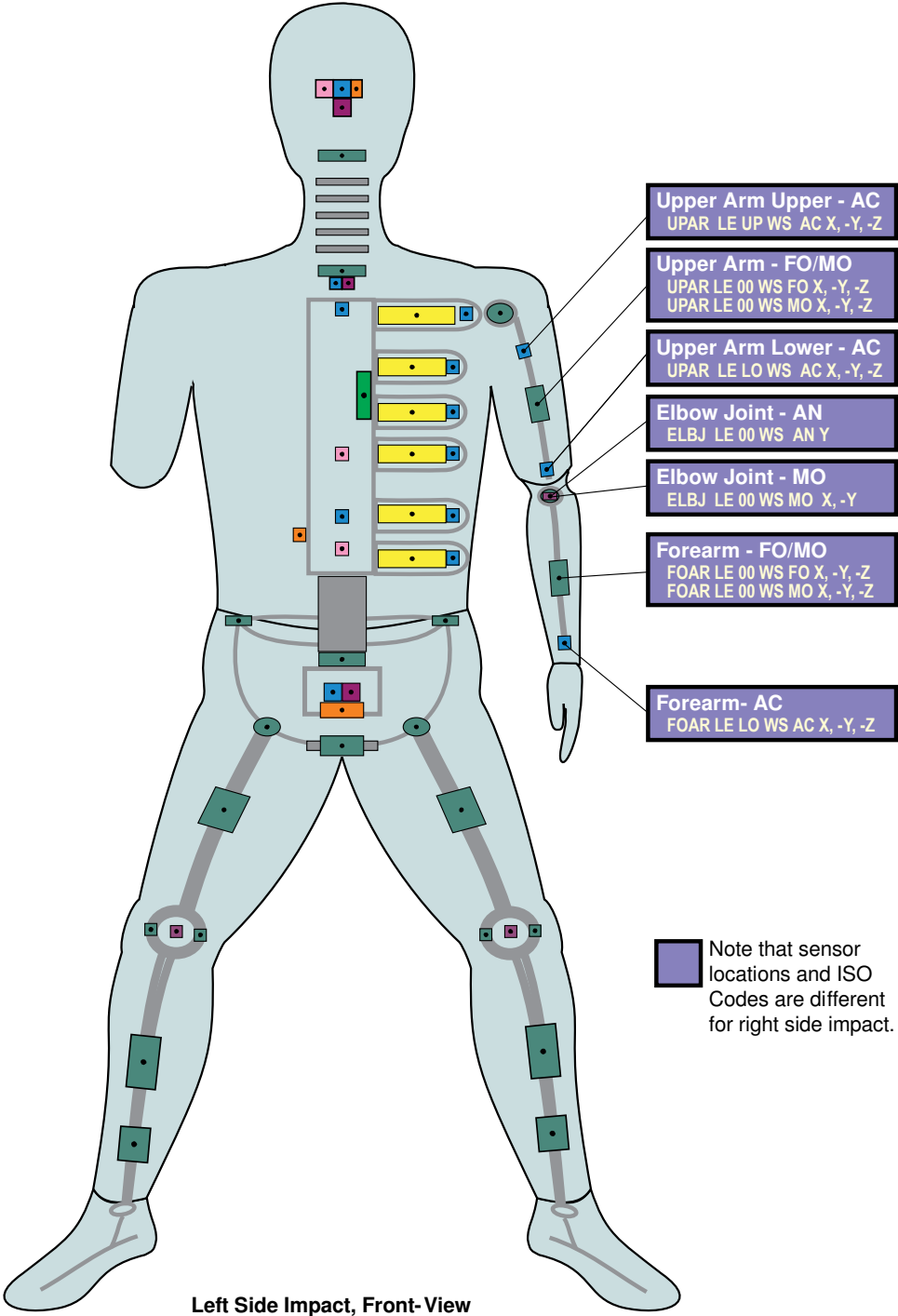


ISO/TS 13499 – RED C : 2012(E)
WS, WorldSID 50th percentile dummy
Static measurements, other channels
2014-03-10






ISO/TS 13499 – RED C : 2012(E)
WS, WorldSID 50th percentile dummy
Additional Instrumentation: Instrumented arm
2014-03-10



VEH_S1 Vehicle left side

Valid since Version 1.6.1

A,B,C,D-pillar, wheel, door, sillbeam, hood, tailgate, vehicle, frontend, tail, wheelarch ...



ISO/TS 13499 - RED C : 2013

Vehicle Side View 1

2013-11-06

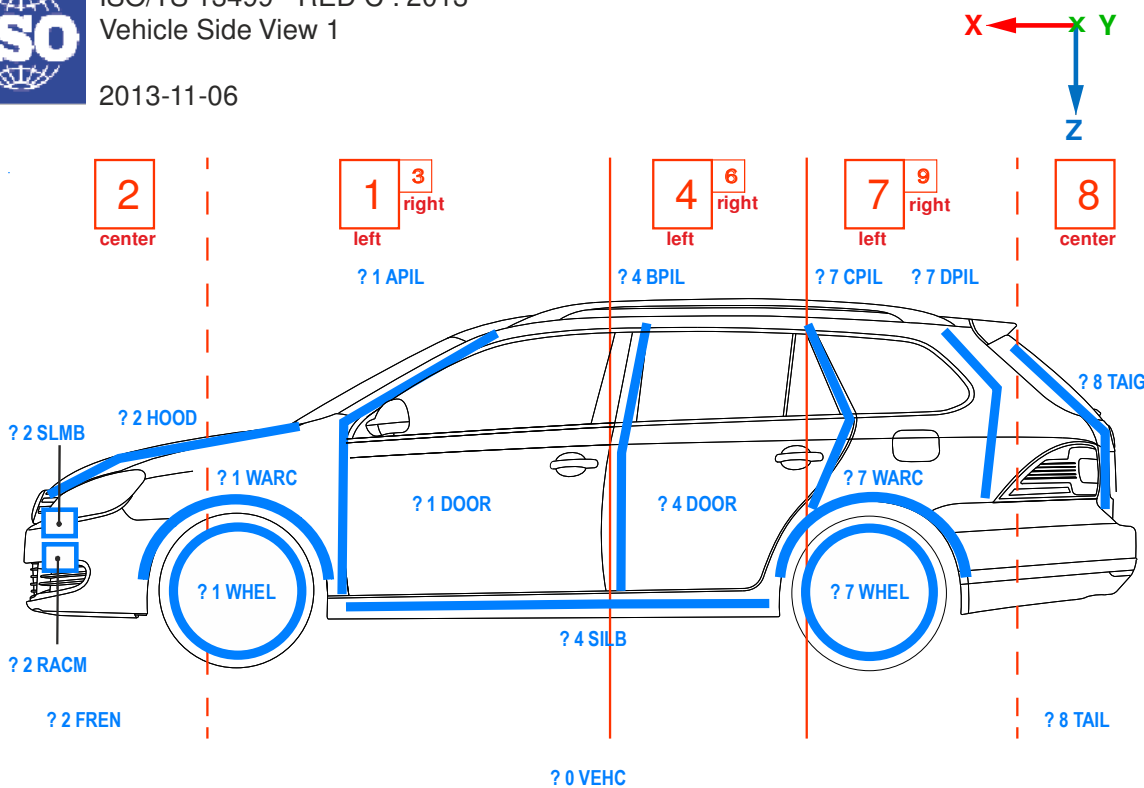


Diagram illustrating the vehicle side view (left side) with numbered callouts for various components. The components are categorized by their location relative to the vehicle's centerline (X-axis) and the front/rear (Z-axis).

Callouts include:

- 2 center
- 1 left, 3 right
- 4 left, 6 right
- 7 left, 9 right
- 8 center
- ? 1 APIL
- ? 4 BPIL
- ? 7 CPIL
- ? 7 DPIL
- ? 8 TAIG
- ? 2 SLMB
- ? 2 HOOD
- ? 1 WARC
- ? 1 DOOR
- ? 4 DOOR
- ? 7 WARC
- ? 2 RACM
- ? 2 FREN
- ? 4 SILB
- ? 7 WHEEL
- ? 8 TAIL
- ? 0 VEHC

picture only from the left side of the vehicle

? 1 APIL	A-Pillar left	? 1 DOOR	Door front left
? 3 APIL	A-Pillar right	? 3 DOOR	Door front right
? 4 BPIL	B-Pillar left	? 4 DOOR	Door rear left
? 6 BPIL	B-Pillar right	? 6 DOOR	Door rear right
? 7 CPIL	C-Pillar left		
? 9 CPIL	C-Pillar right		
? 7 DPIL	D-Pillar left		
? 9 DPIL	D-Pillar right		
		? 2 HOOD	Hood
		? 8 TAIG	Tailgate
		? 0 VEHC	Vehicle
		? 2 FREN	Frontend
		? 8 TAIL	Tail
		? 2 SLMB	Slam Beam
		? 2 RACM	Radiator Cross Member
? 1 WHEEL	Wheel front left		
? 3 WHEEL	Wheel front right		
? 7 WHEEL	Wheel rear left		
? 9 WHEEL	Wheel rear right		
? 1 WARC	Wheel Arch front left		
? 3 WARC	Wheel Arch front right		
? 7 WARC	Wheel Arch rear left		
? 9 WARC	Wheel Arch rear right		

ISO_VEH_16R1


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ISO TC 22 / SC 12 / WG 3 / ISO-MME Task Force
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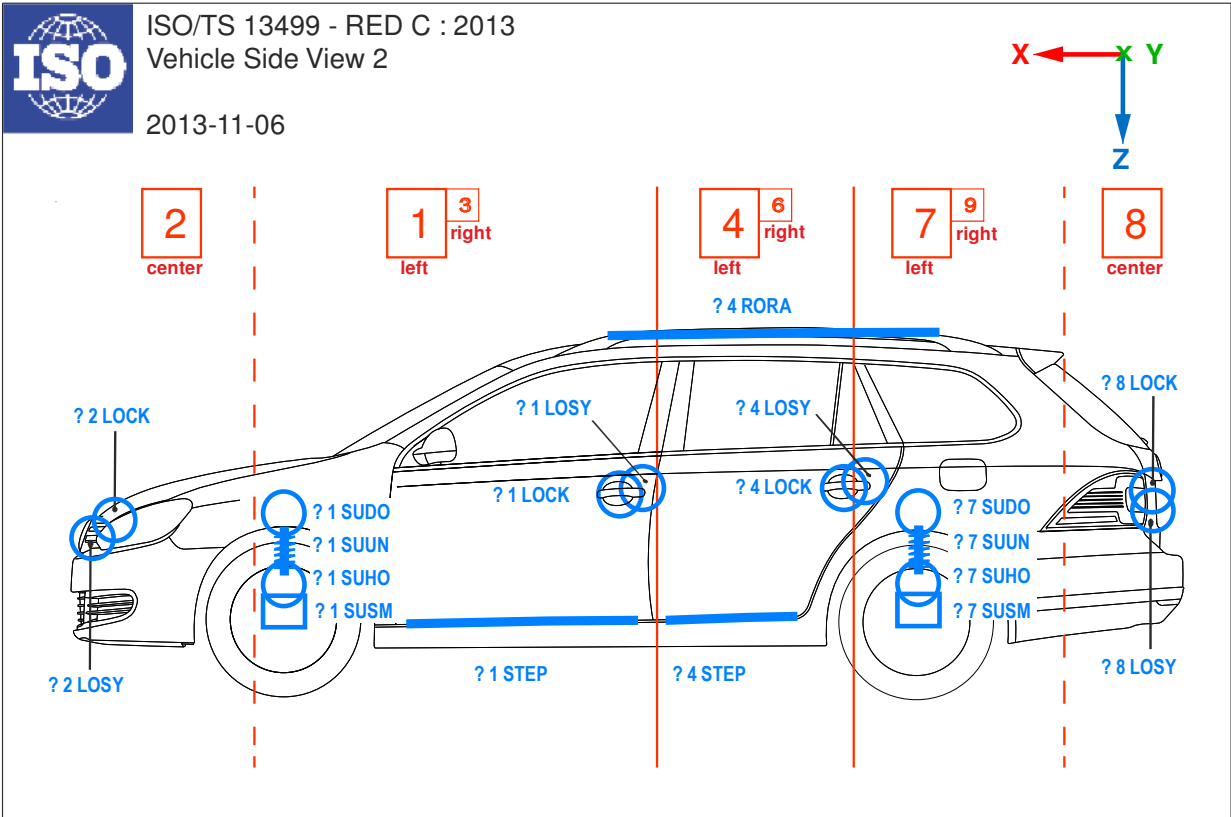
VEH_S2 Vehicle left side

Valid since Version 1.6.1

lock, locking system, roof rack, step, suspension, ...



ISO/TS 13499 - RED C : 2013
Vehicle Side View 2
2013-11-06



picture only from the left side of the vehicle

? 1 LOSY	Locking System front left	? 1 SUDO	Suspension Dome front left
? 3 LOSY	Locking System front right	? 3 SUDO	Suspension Dome front right
? 4 LOSY	Locking System rear left	? 7 SUDO	Suspension Dome rear left
? 6 LOSY	Locking System rear right	? 9 SUDO	Suspension Dome rear right
? 2 LOSY	Locking System front		
? 8 LOSY	Locking System rear		
		? 1 SUUN	Suspension Unit front left
		? 3 SUUN	Suspension Unit front right
		? 7 SUUN	Suspension Unit rear left
		? 9 SUUN	Suspension Unit rear right
		? 1 SUHO	Suspen. Housing front left
		? 3 SUHO	Suspen. Housing front right
		? 7 SUHO	Suspen. Housing rear left
		? 9 SUHO	Suspen. Housing rear right
		? 1 SUSM	Suspension Mount front left
		? 3 SUSM	Suspension Mount front right
		? 7 SUSM	Suspension Mount rear left
		? 9 SUSM	Suspension Mount rear right

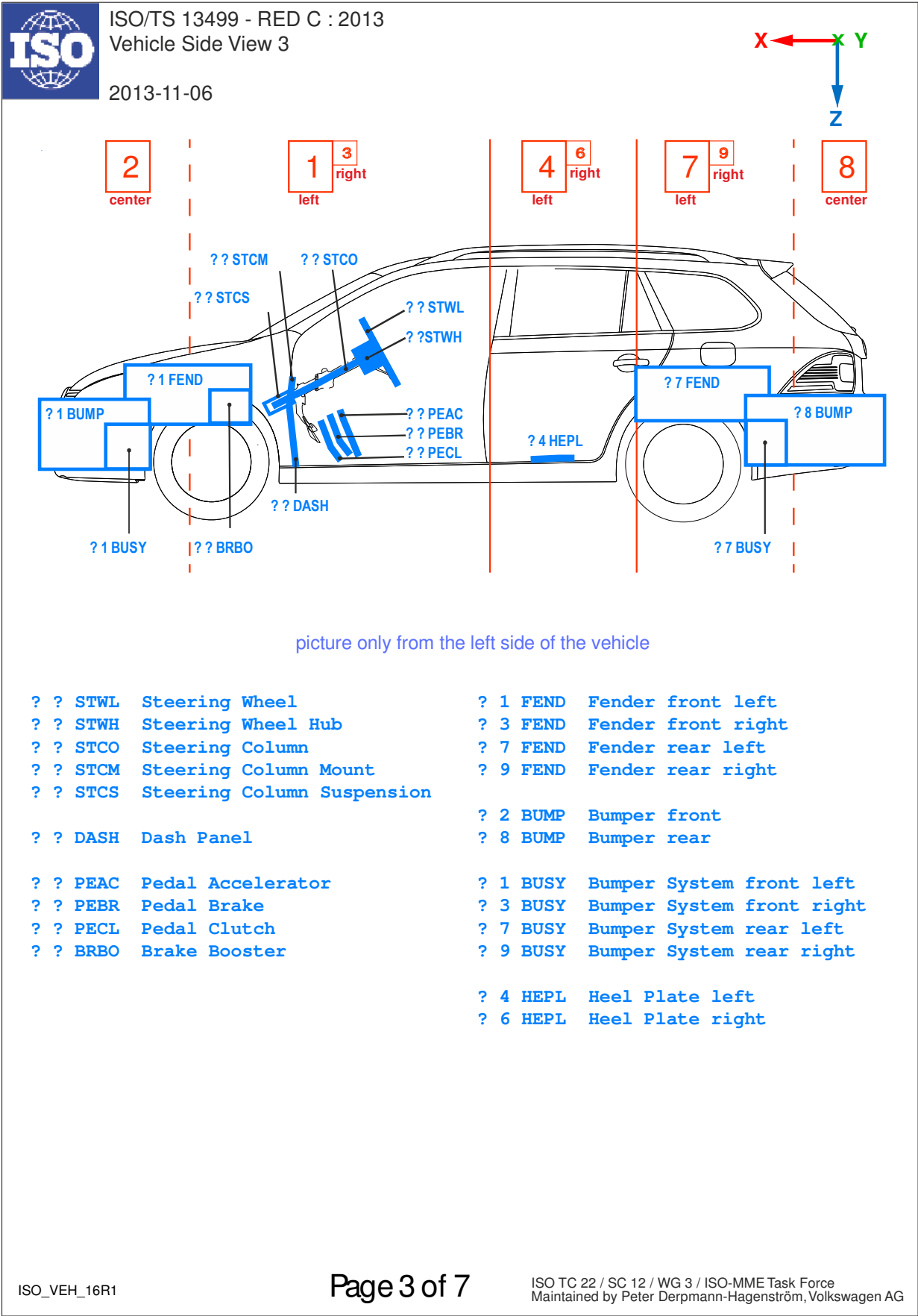
ISO_VEH_16R1

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ISO TC 22 / SC 12 / WG 3 / ISO-MME Task Force
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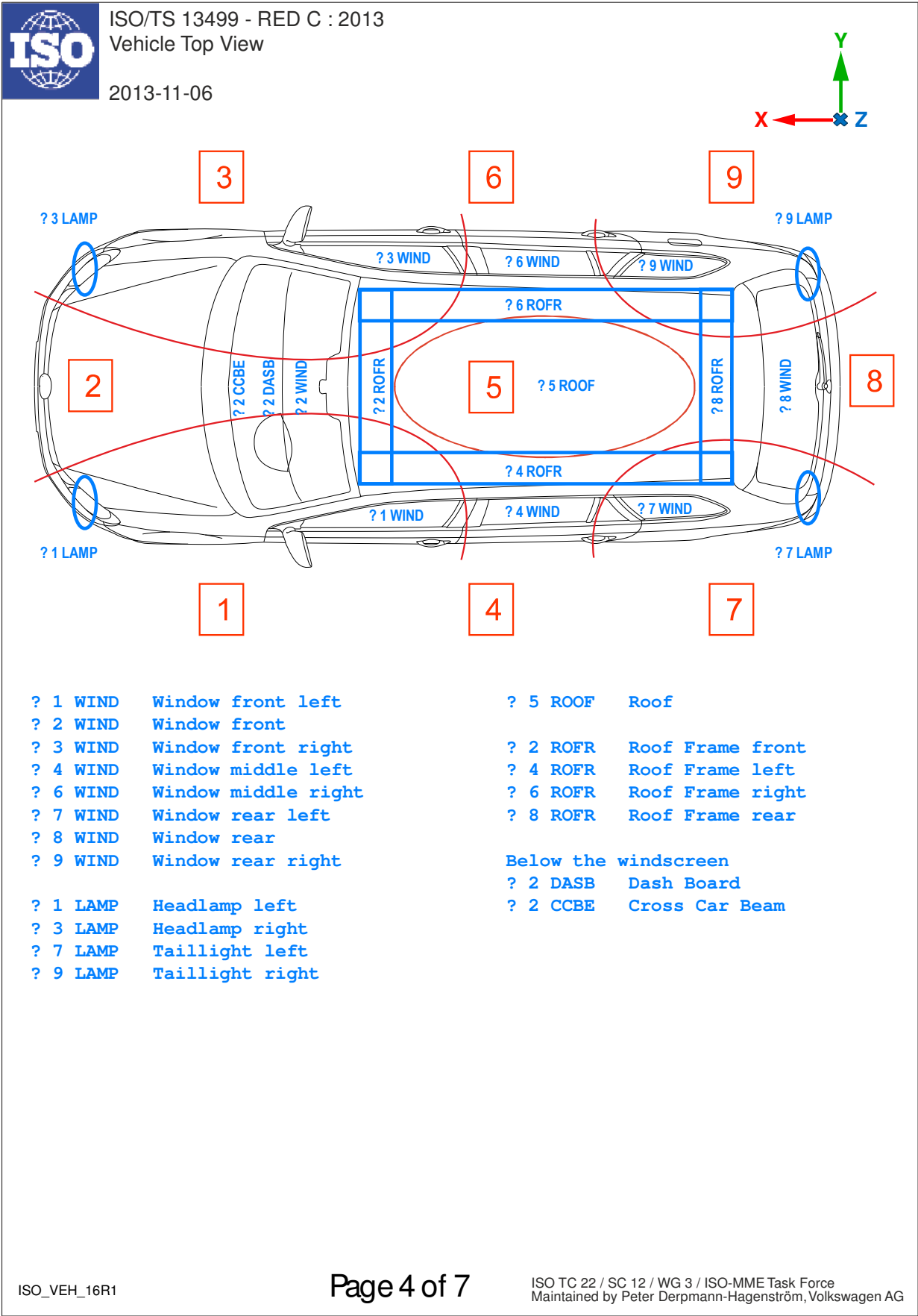
VEH_S3 Vehicle left side, open

Valid since Version 1.6.1
left side open; steering wheel, pedals



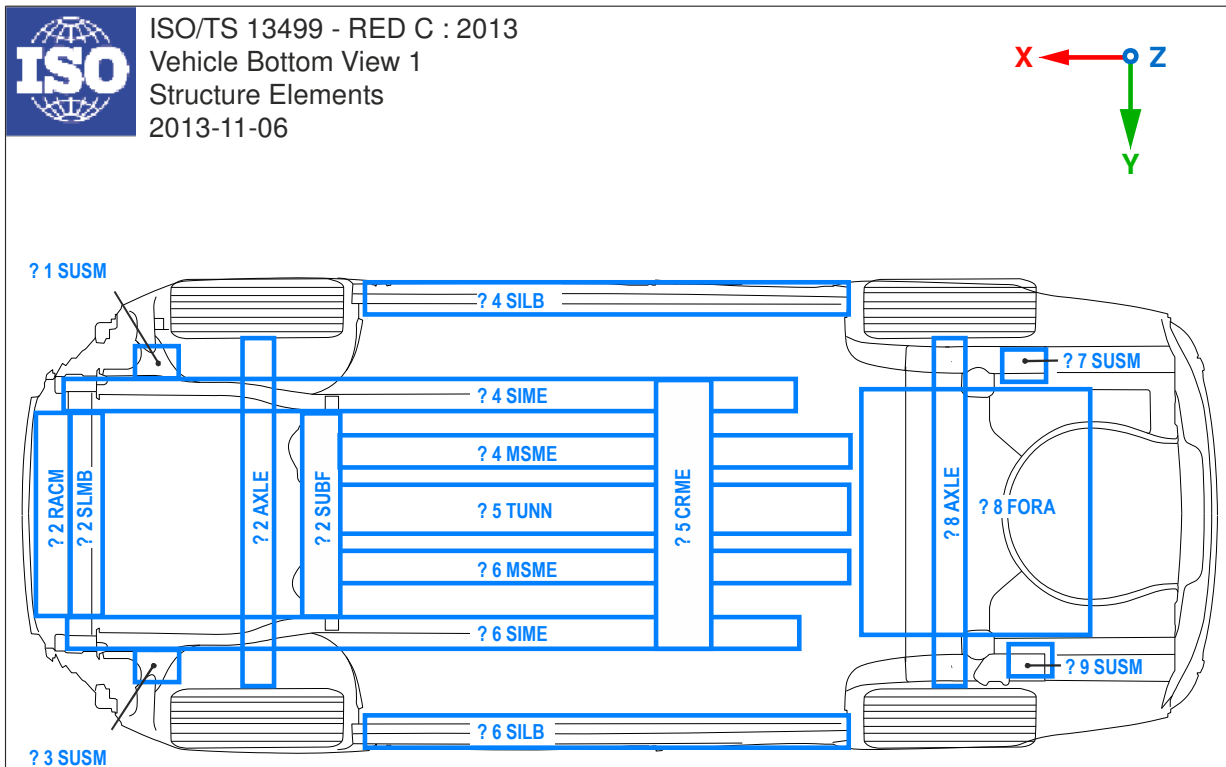
VEH_T1 Vehicle top

Valid since Version 1.6.1
window, roof, roof frame, lamp, ...



VEH_B1 Vehicle bottom

Valid since Version **1.6.1**
side and cross members, suspension, axle, ...



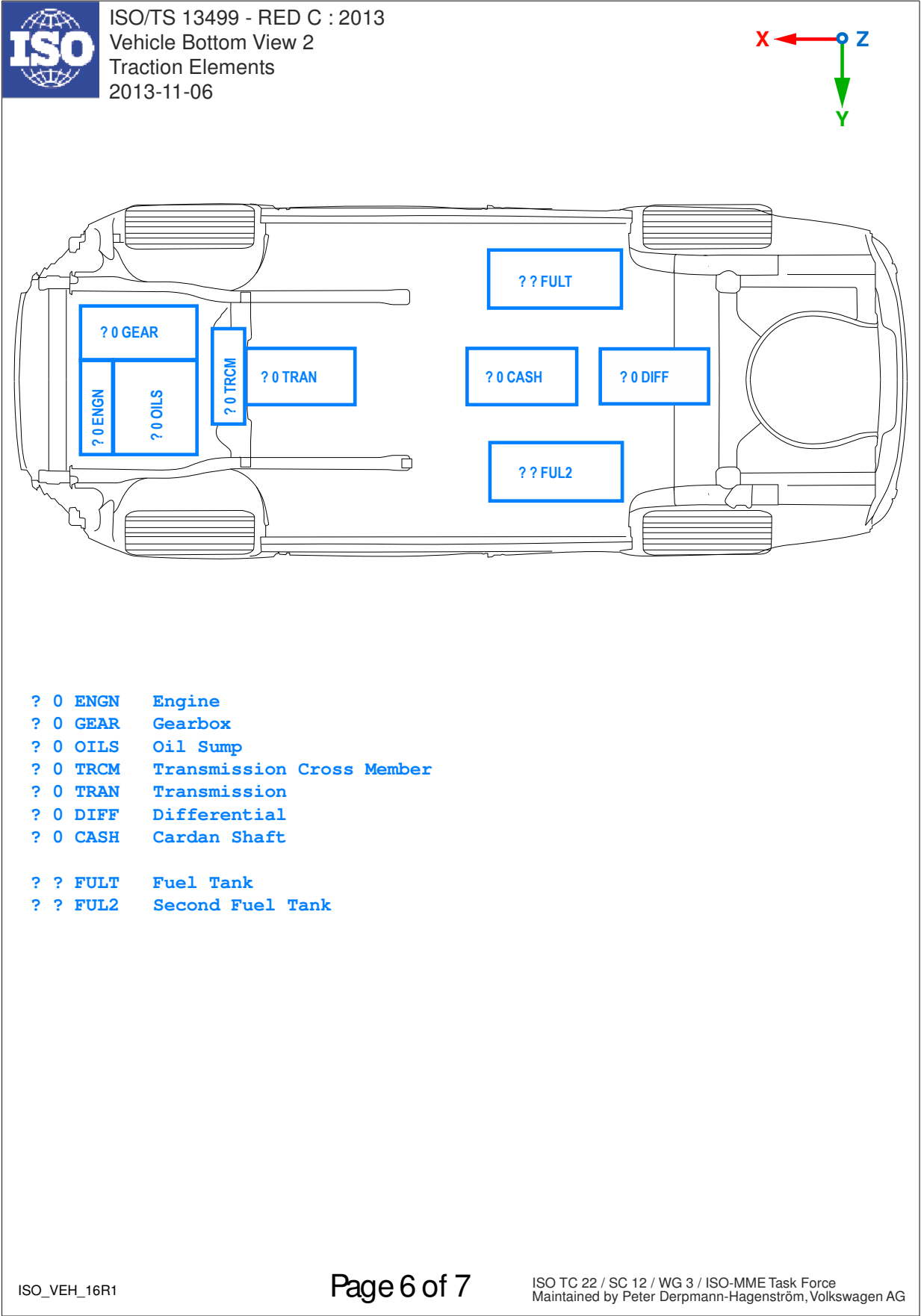
- | | | |
|-----|------|------------------------------|
| ? 2 | AXLE | Axle front |
| ? 8 | AXLE | Axle rear |
| ? 8 | FORA | Floor over Rear Axle |
| | | |
| ? 2 | RACM | Radiator Cross Member |
| ? 2 | SLMB | Slam Beam |
| ? 2 | SUBF | Subframe |
| ? 1 | SUSM | Suspension Mount front left |
| ? 3 | SUSM | Suspension Mount front right |
| ? 7 | SUSM | Suspension Mount rear left |
| ? 9 | SUSM | Suspension Mount rear right |
| ? 5 | CRME | Cross Member |
| | | |
| ? 4 | SILB | Sill Beam left |
| ? 6 | SILB | Sill Beam right |
| ? 4 | SIME | Side Member left |
| ? 6 | SIME | Side Member right |
| ? 4 | MSME | Main Side Member left |
| ? 6 | MSME | Main Side Member right |
| ? 5 | TUNN | Tunnel |

General Main Location

? ? FRAM Frame

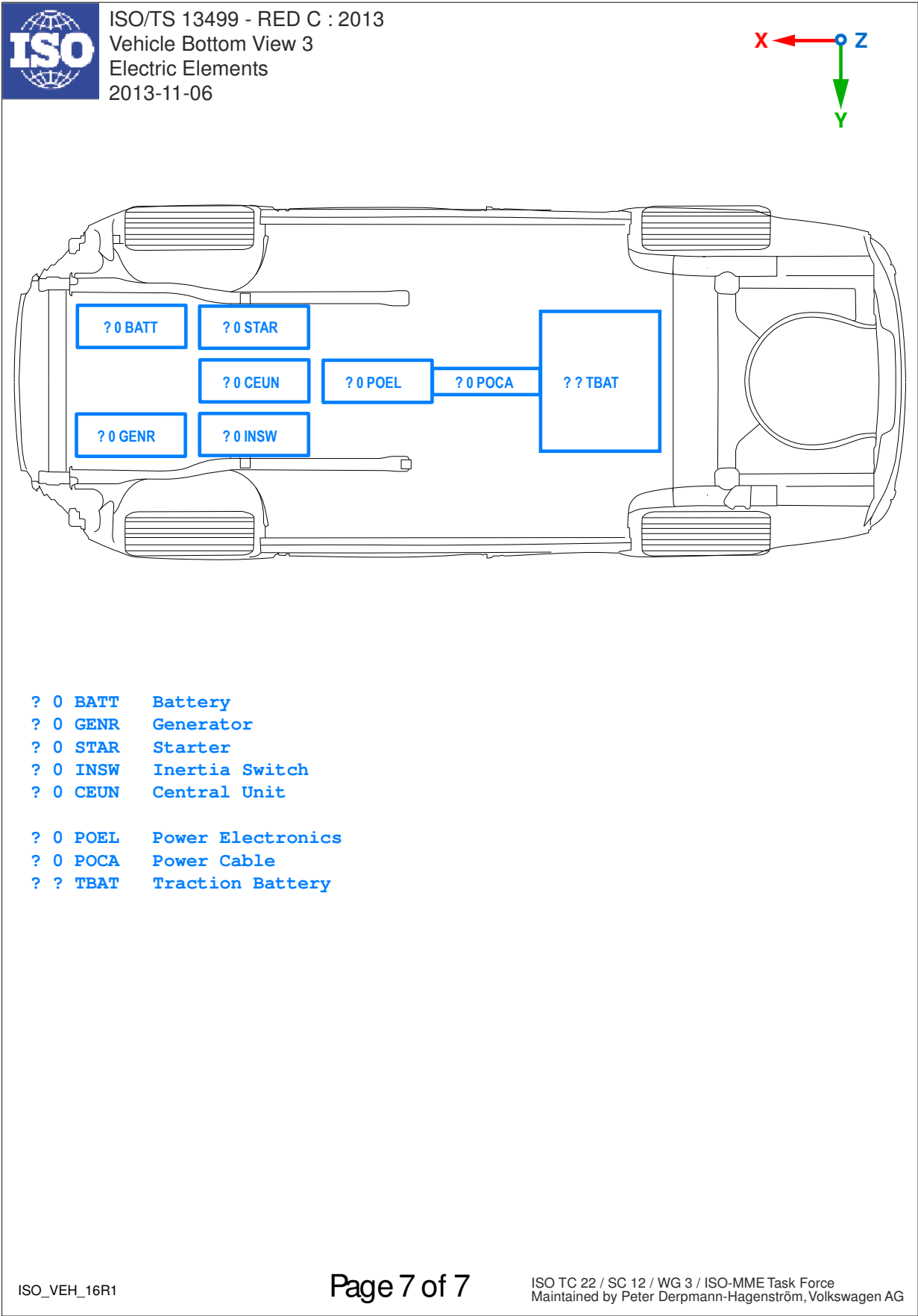
VEH_B2 Vehicle bottom

Valid since Version 1.6.1
engine, transmission, fuel tank, electrical components,



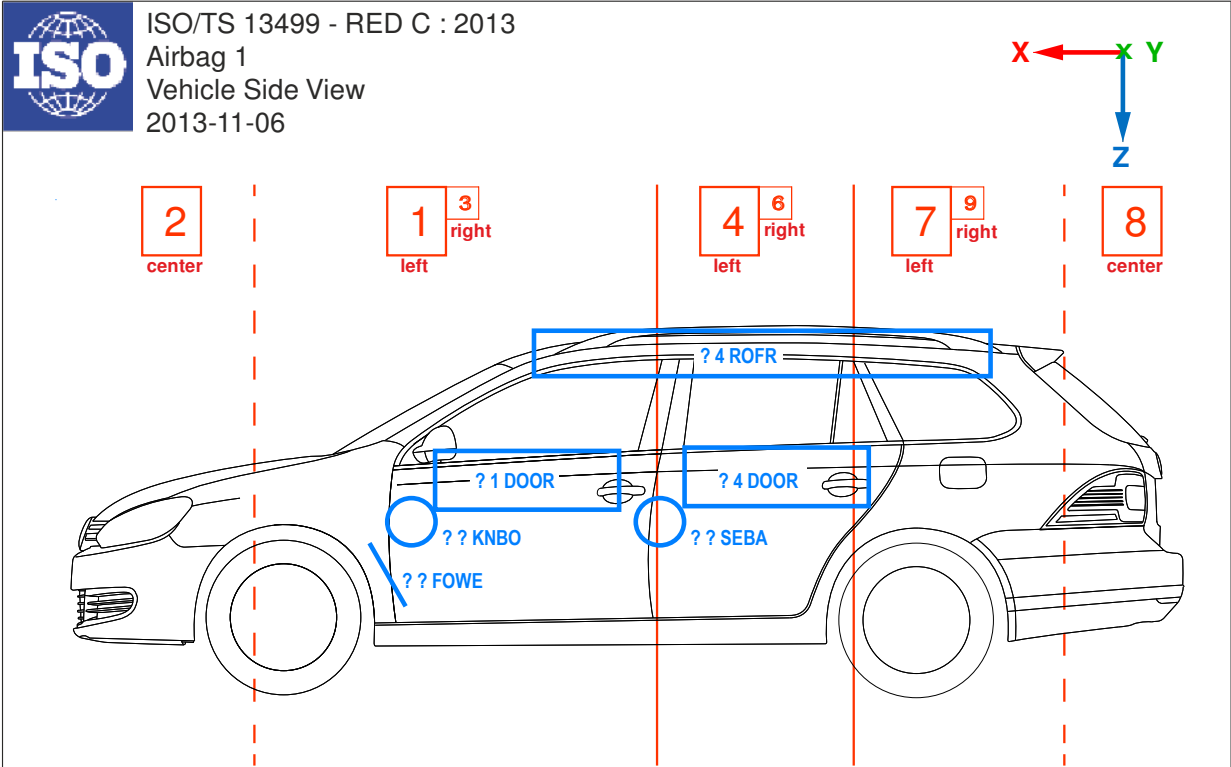
VEH_B3 Vehicle bottom

Valid since Version 1.6.1
electric elements



AIRB Airbag (1)

Valid since Version 1.6.1
door, knee, footwell, roof frame airbags



picture only from the left side of the vehicle

General Main Locations

? ? AIRB ???? ? ? Airbag
? ? ABSE ???? ? ? Airbag Sensor

Frontal Airbags

? ? KNBO ???? AF Knee Bolster Airbag
? ? KNBO ???? GF Knee Bolster Generator
? ? SEBA ???? AF Seat Back Knee Airbag
? ? SEBA ???? GF Seat Back Knee Generator
? ? FOWE ???? AF Footwell Airbag
? ? FOWE ???? GF Footwell Generator

Side Airbags


? ? DOOR ???? AS Door Side Airbag
? ? DOOR ???? GS Door Side Generator

Head Airbags

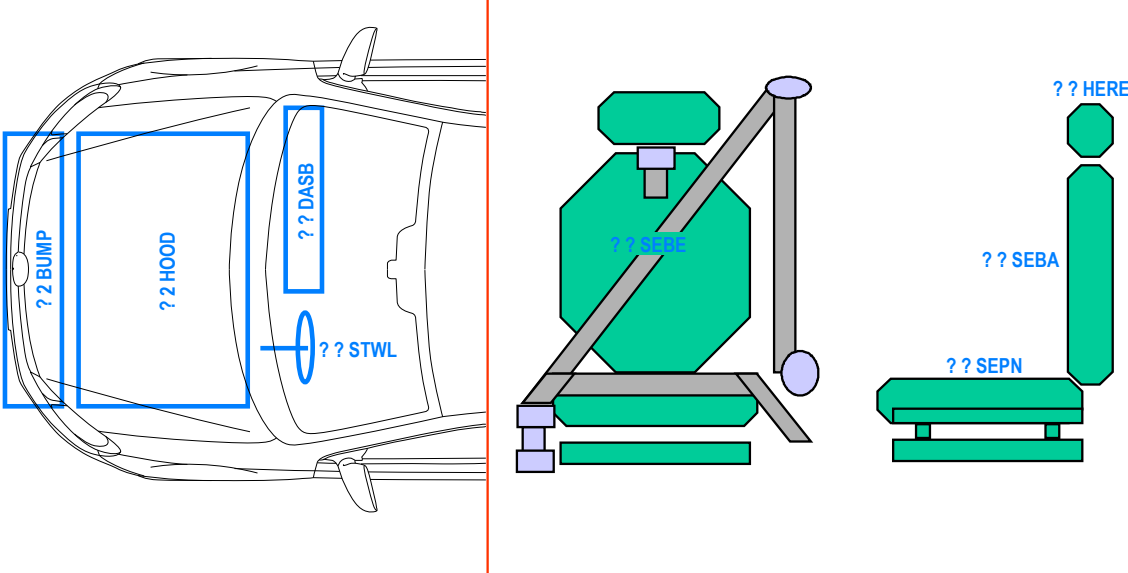
? ? DOOR ???? AH Door Head Airbag
? ? DOOR ???? GH Door Head Generator
? ? ROFR ???? AH Roof Frame Head Airbag
? ? ROFR ???? GH Roof Frame Head Generator

AIRB Airbag (2)

Valid since Version 1.6.1
external, seat related airbags



ISO/TS 13499 - RED C : 2013
Airbag 2
Vehicle Top View and Seat
2013-11-06



The diagram illustrates the locations of various airbags in a vehicle. The left side shows a top-down view of the car with blue boxes and labels: '?? BUMP' at the front bumper, '?? HOOD' for the hood area, '?? DASB' for the dashboard area, and '?? STWL' for the steering wheel. The right side shows two side views of a seat. The front seat view has labels '?? SEBE' for the seat belt area and '?? SEBA' for the seat back area. The rear seat view has labels '?? SEPN' for the seat pan area and '?? HERE' for the head restraint area.

Frontal Airbags
?? STWL AF Steering Wheel Airbag
?? STWL GF Steering Wheel Gen.
?? DASB AF Dashboard Airbag
?? DASB GF Dashboard Generator

Pedestrian Airbags
? 2 BUMP AP Bumper Airbag
? 2 BUMP GP Bumper Generator
? 2 HOOD AP Hood Airbag
? 2 HOOD GP Hood Generator

Frontal Airbags
?? SEBE AF Seat Belt Airbag
?? SEBE GF Seat Belt Generator

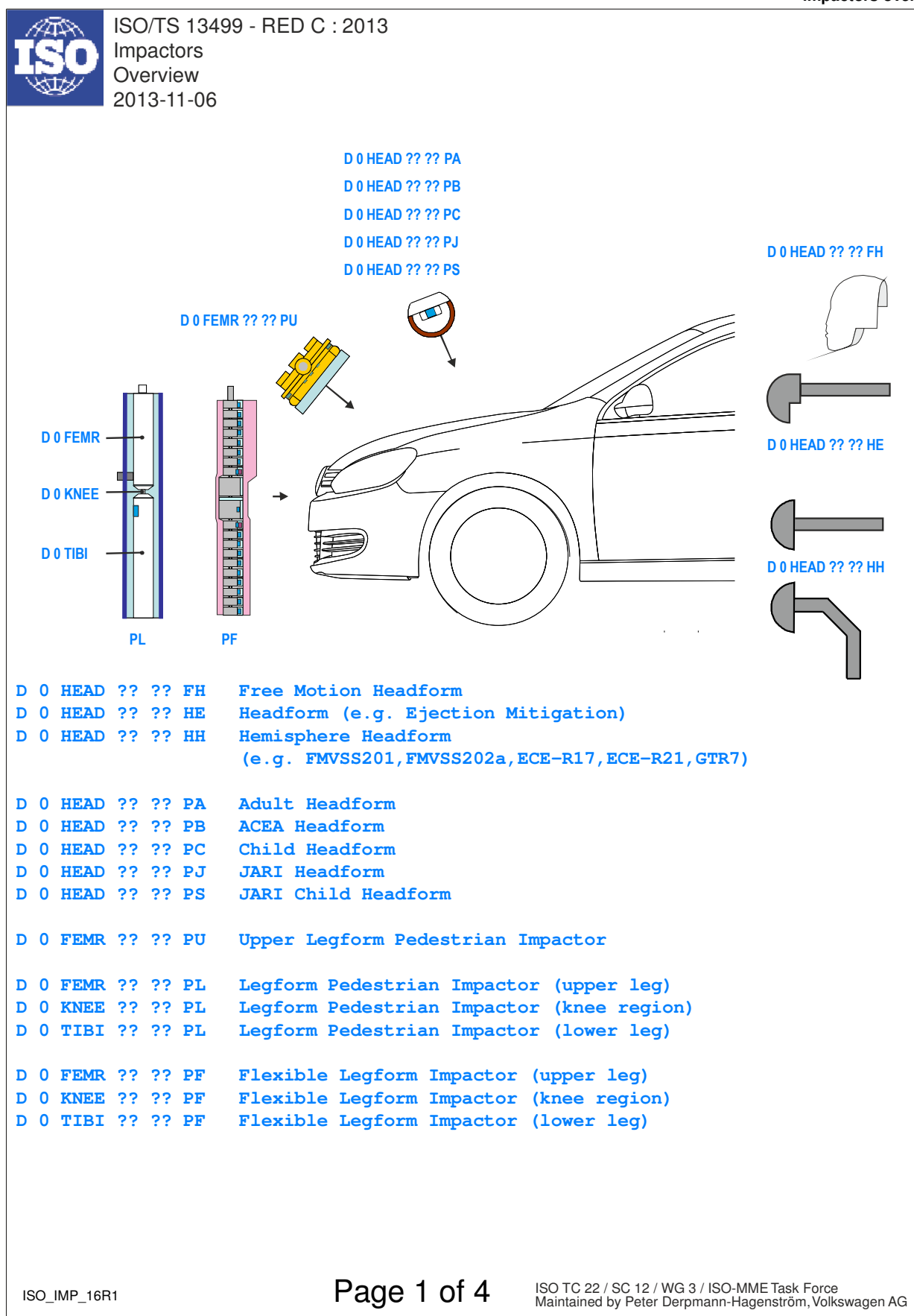
Side Airbags
?? SEPN AS Seat Pan Airbag
?? SEPN GS Seat Pan Generator
?? SEBA AS Seat Back Airbag
?? SEBA GS Seat Back Generator

Rear Airbags
?? HERE AR Head Restraint Airbag
?? HERE GR Head Restraint Gen.

ISO_AIRB_16R1


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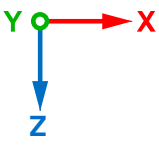


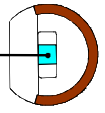
IMP_2 Impactors: head, upper legform

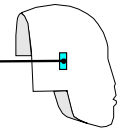
Valid since Version 1.6.1
headforms and upper legform impactor

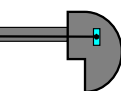


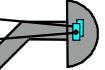
ISO/TS 13499 - RED C : 2013
Impactors
Headforms and Upper Legform Impactor
2013-11-06

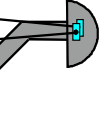


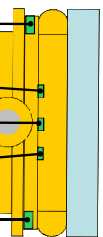
D 0 HEAD 00 00 P? AC ? 

D 0 HEAD 00 00 FH AC ? 

D 0 HEAD 00 00 HE AC ? 

D 0 HEAD LE 00 HH AC ? 

D 0 HEAD RI 00 HH AC ? 

D 0 FEMR UP 00 PU FO X 

D 0 FEMR UP 00 PU MO Y

D 0 FEMR MI 00 PU MO Y

D 0 FEMR LO 00 PU MO Y

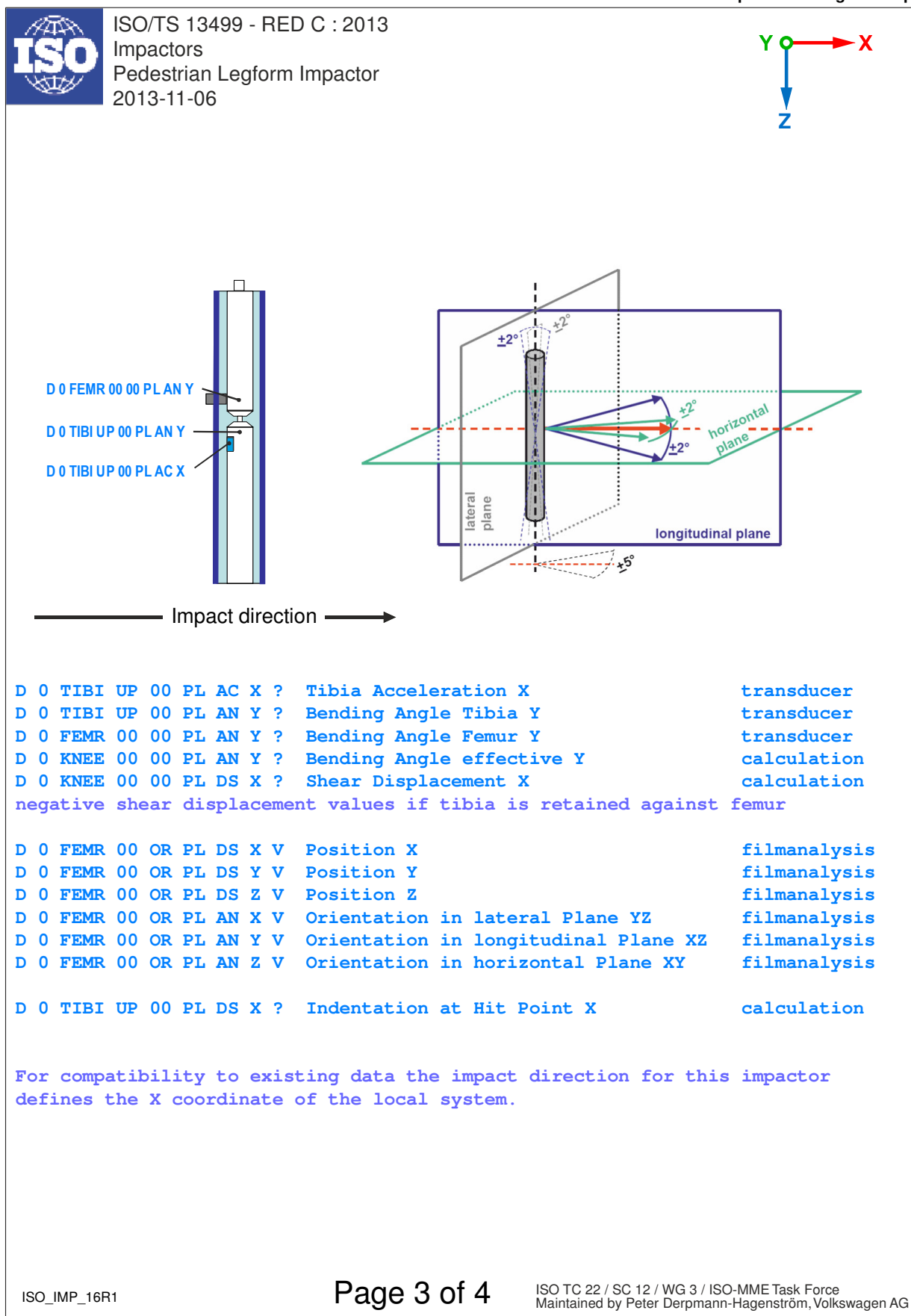
D 0 FEMR LO 00 PU FO Y

D 0 HEAD 00 00 FH AC X ?	Free Motion Headform Acceleration X	transducer
D 0 HEAD 00 00 FH AC Y ?	Free Motion Headform Acceleration Y	transducer
D 0 HEAD 00 00 FH AC Z ?	Free Motion Headform Acceleration Z	transducer
D 0 HEAD ?? 00 H? AC X ?	(Hemisphere) Headform Acceleration X	transducer
D 0 HEAD ?? 00 H? AC Y ?	(Hemisphere) Headform Acceleration Y	transducer
D 0 HEAD ?? 00 H? AC Z ?	(Hemisphere) Headform Acceleration Z	transducer
D 0 HEAD 00 00 P? AC X ?	Pedestrian Headform Acceleration X	transducer
D 0 HEAD 00 00 P? AC Y ?	Pedestrian Headform Acceleration Y	transducer
D 0 HEAD 00 00 P? AC Z ?	Pedestrian Headform Acceleration Z	transducer
D 0 HEAD 00 ?? ?? DS X V	Position X	filmanalysis
D 0 HEAD 00 ?? ?? DS Y V	Position Y	filmanalysis
D 0 HEAD 00 ?? ?? DS Z V	Position Z	filmanalysis
D 0 HEAD 00 ?? ?? AN X V	Rotation around X Axis	filmanalysis
D 0 HEAD 00 ?? ?? AN Y V	Rotation around Y Axis	filmanalysis
D 0 HEAD 00 ?? ?? AN Z V	Rotation around Z Axis	filmanalysis
D 0 FEMR UP 00 PU FO X ?	Upper Shear Force X	transducer
D 0 FEMR LO 00 PU FO X ?	Lower Shear Force X	transducer
D 0 FEMR UP 00 PU MO Y ?	Upper Bending Moment Y	transducer
D 0 FEMR MI 00 PU MO Y ?	Middle Bending Moment Y	transducer
D 0 FEMR LO 00 PU MO Y ?	Lower Bending Moment Y	transducer

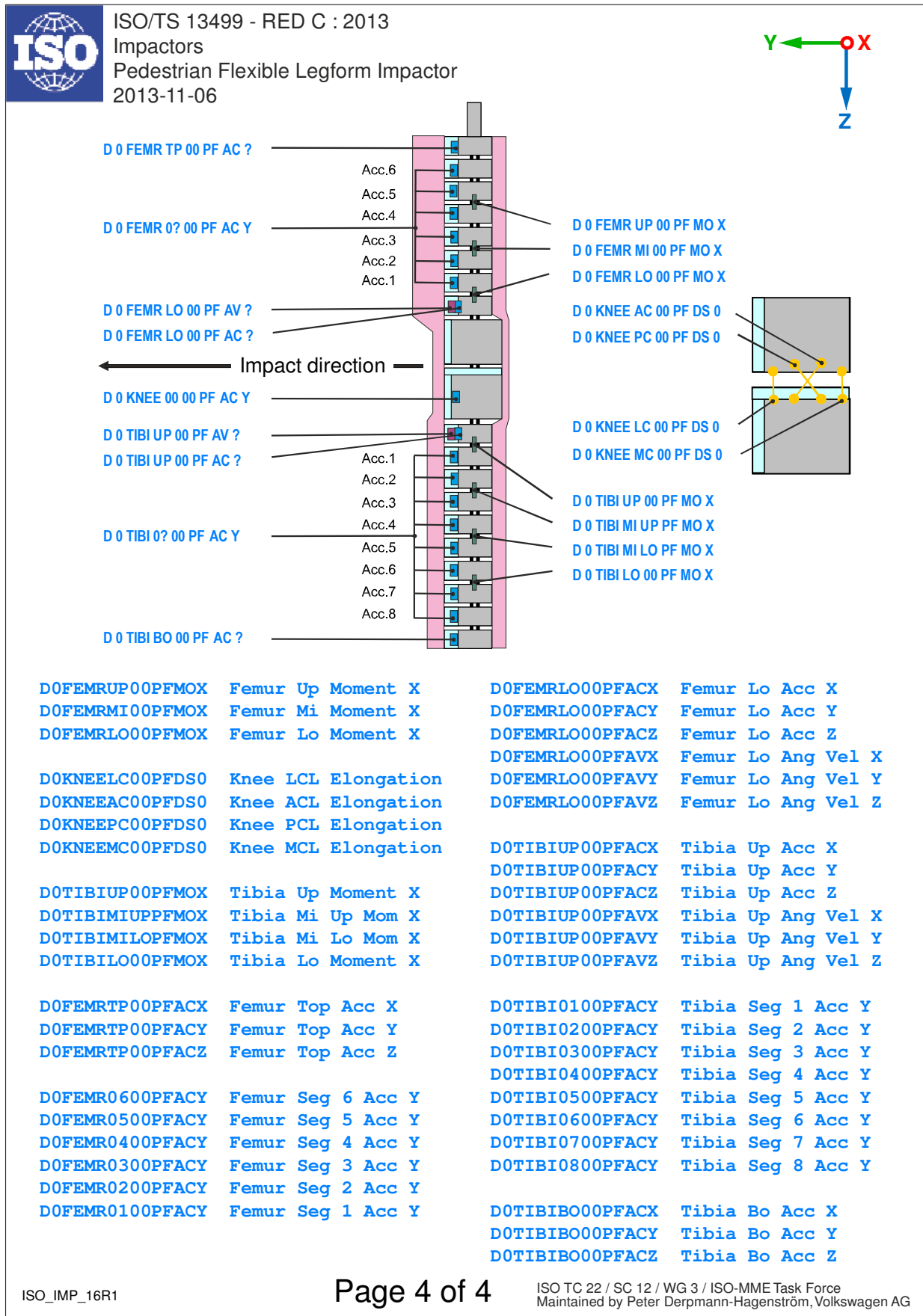
ISO_IMP_16R1

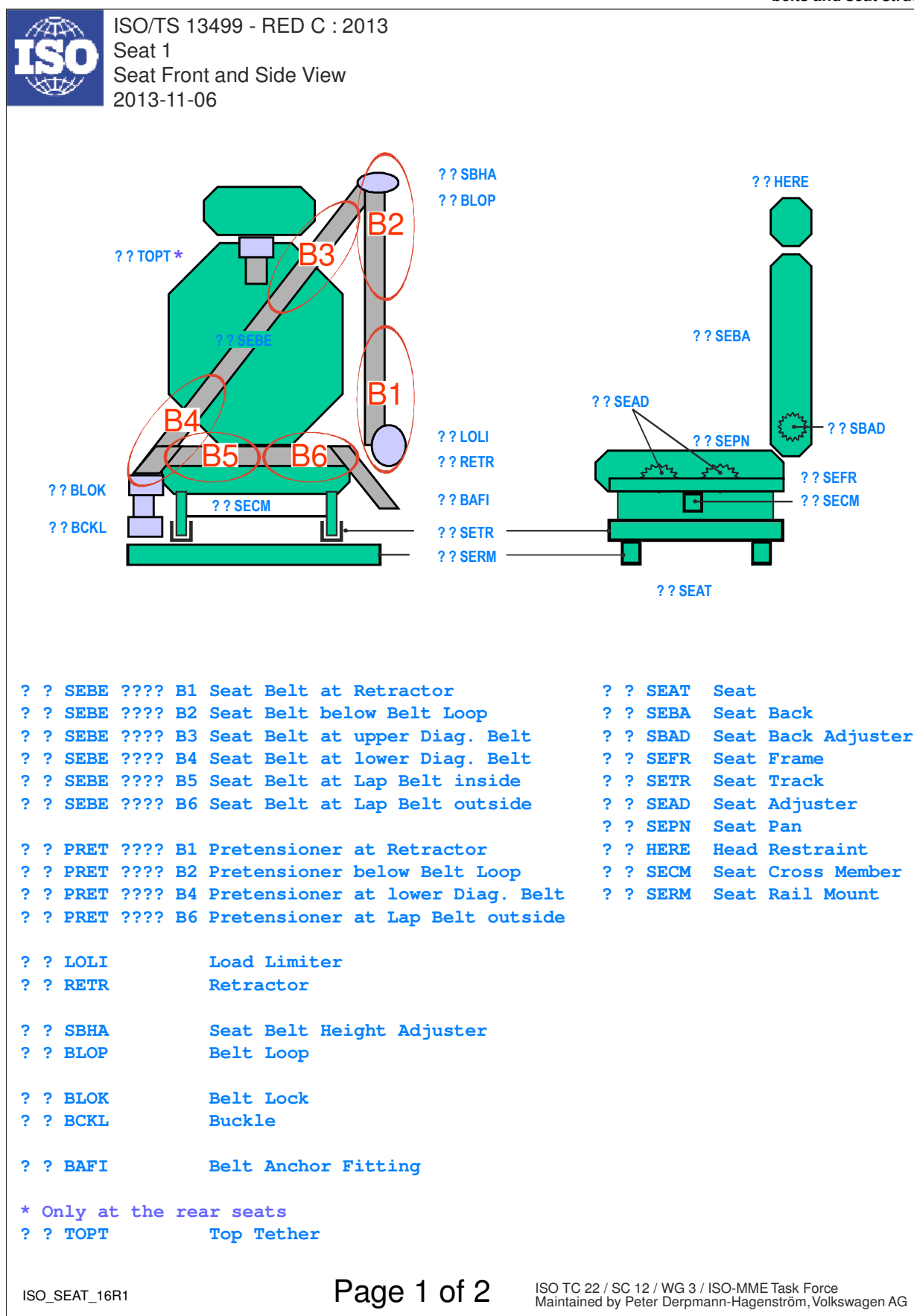
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IMP_4 Impactors: flexpli-legform

Valid since Version 1.6.1
pedestrian flexible legform impactor

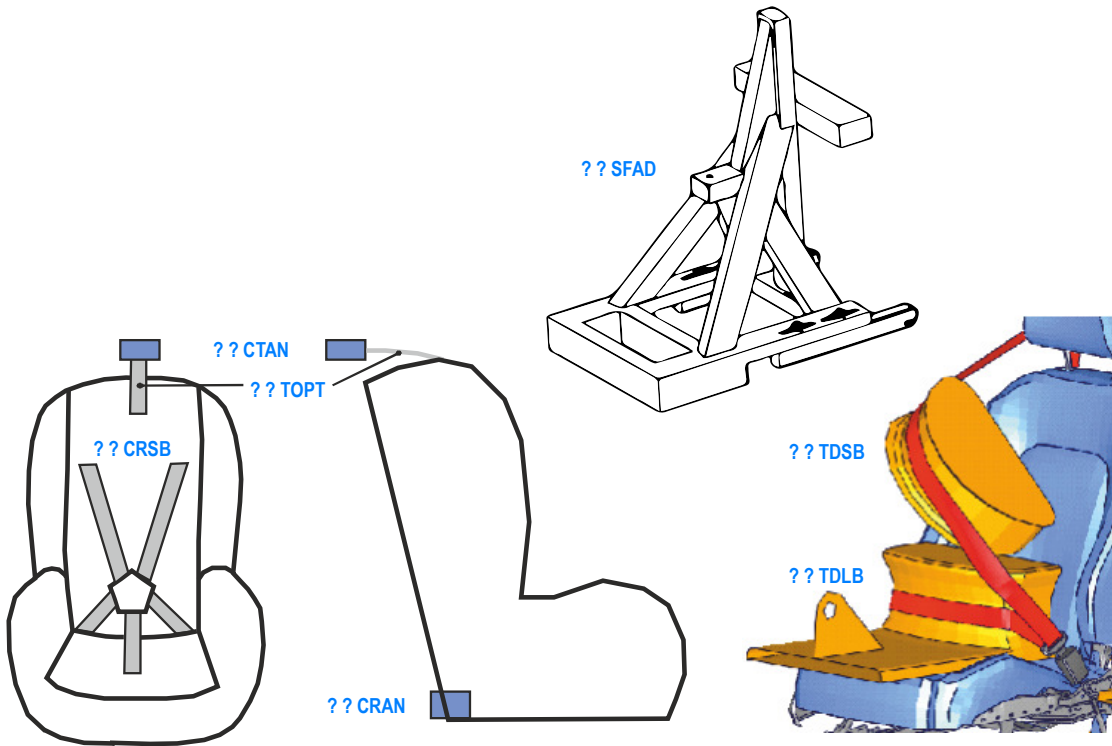


SEAT_2 Seat and traction devices

Valid since Version 1.6.1
traction devices, Child restraint anchorage



ISO/TS 13499 - RED C : 2013
Seat 2
Child Restraint Systems
2013-11-06



?? TDSB Traction Device Shoulder Belt
?? TDLB Traction Device Lap Belt


?? CTAN Child Tether Anchorage
?? CRAN Child Restraint Anchor
?? CRSB Child Restraint Seat Belt
?? TOPT Top Tether

?? SFAD Static Force Application Device

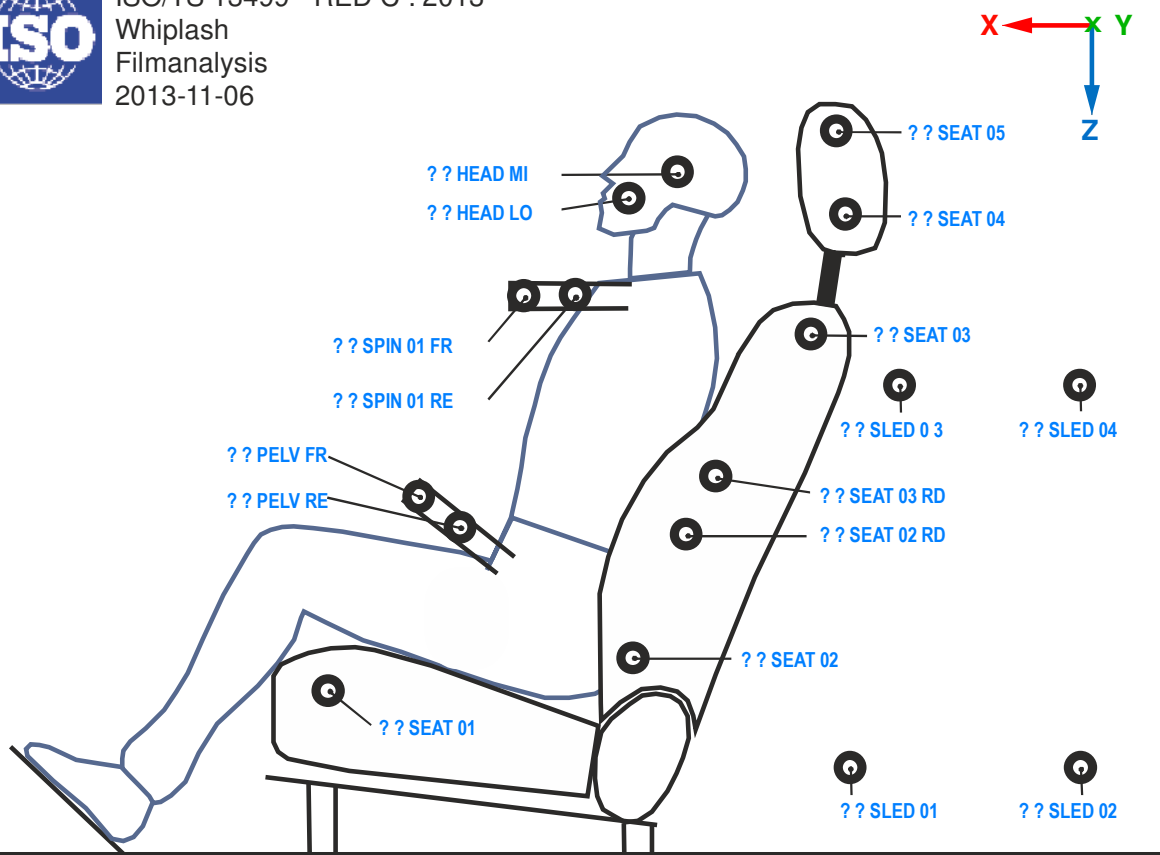
ISO_SEAT_16R1

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ISO/TS 13499 - RED C : 2013
Whiplash
Filmanalysis
2013-11-06



S ? SEAT 01 00 00 DS ? V	ST1	Seat Base forward
S ? SEAT 02 00 00 DS ? V	ST2	Seat Back lower
S ? SEAT 02 RD 00 DS ? V	ST2'	Seat Back mid #1
S ? SEAT 03 00 00 DS ? V	ST3	Seat Back upper
S ? SEAT 03 RD 00 DS ? V	ST3'	Seat Back mid #2
S ? SEAT 04 00 00 DS ? V	ST4	Lower Head Restraint
S ? SEAT 05 00 00 DS ? V	ST5	Upper Head Restraint
S ? HEAD MI 00 BR DS ? V	DT6	Head CoG
S ? HEAD LO 00 BR DS ? V	DT7	Cheek
S ? SPIN 01 RE BR DS ? V	DT8	T1 Bracket proximal
S ? SPIN 01 FR BR DS ? V	DT9	T1 Bracket distal
S ? PELV RE 00 BR DS ? V	DT10	Pelvis Bracket proximal
S ? PELV FR 00 BR DS ? V	DT11	Pelvis Bracket distal
S 0 SLED 01 00 00 DS ? V	Ref1	Reference Point #1
S 0 SLED 02 00 00 DS ? V	Ref2	Reference Point #2
S 0 SLED 03 00 00 DS ? V	Ref3	Reference Point #3
S 0 SLED 04 00 00 DS ? V	Ref4	Reference Point #4

Possible values for the direction are X, Y, Z and R

S 0 HEAD 00 DI BR VE X V Rebound velocity of head relative to sled


ISO_WPL_16R1

Page 1 of 1

ISO TC 22 / SC 12 / WG 3 / ISO-MME Task Force
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OTHER Chest Deflection Measurement

Valid since Version 1.6.2p1
Chest Deflection Coding for different dummy types



ISO/TS 13499 - RED C : 2013
Chest Deflection
1 Axis - Frontal Impact
2016-05-12

Rotary Potentiometer **H3, HF, HM, Y6, Y7**
transducer:
CHST 00 00 ?? DSX

for polynomial calibration and
simultaneously exchange only:
calculation:
CHST 00 03 ?? DSX

String Potentiometer **Q1, Q2**
transducer:
CHST 00 00 ?? DSX

IR-TRACC 1D **Q3, Q6**
transducer:
CHST 00 00 ?? VOX
calculation:
CHST 00 00 ?? DSX


ISO_CHST_16R2

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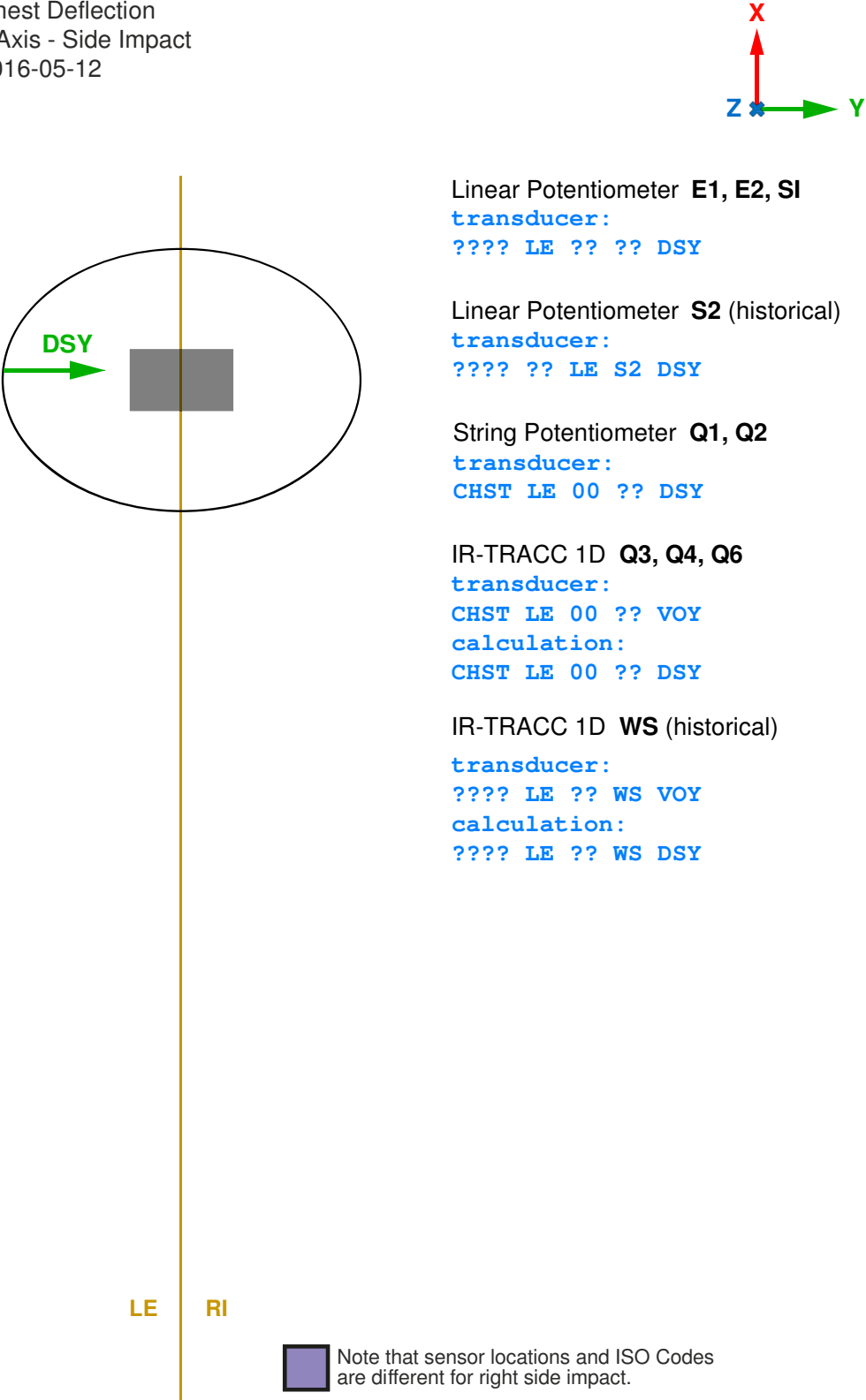
ISO TC 22 / SC 12 / WG 3 / ISO-MME Task Force
Maintained by Peter Derpmann-Hagenström, Volkswagen AG

OTHER Chest Deflection Measurement

Valid since Version 1.6.2p1
Chest Deflection Coding for different dummy types



ISO/TS 13499 - RED C : 2013
Chest Deflection
1 Axis - Side Impact
2016-05-12



Linear Potentiometer **E1, E2, SI**
transducer:
???? LE ?? ?? DSY

Linear Potentiometer **S2** (historical)
transducer:
???? ?? LE S2 DSY


String Potentiometer **Q1, Q2**
transducer:
CHST LE 00 ?? DSY

IR-TRACC 1D **Q3, Q4, Q6**
transducer:
CHST LE 00 ?? VOY
calculation:
CHST LE 00 ?? DSY

IR-TRACC 1D **WS** (historical)
transducer:
???? LE ?? WS VOY
calculation:
???? LE ?? WS DSY

LE

RI

Note that sensor locations and ISO Codes are different for right side impact.

ISO_CHST_16R2


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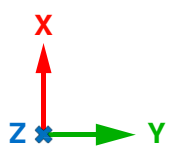
OTHER Chest Deflection Measurement

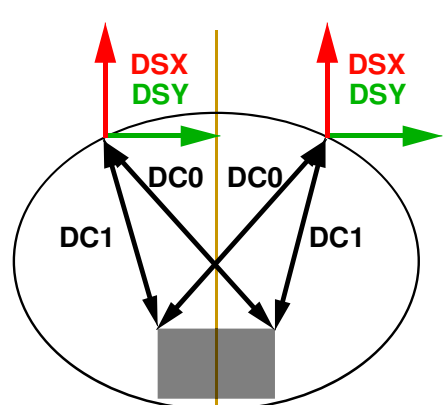
Valid since Version 1.6.2p1

Chest Deflection Coding for different dummy types



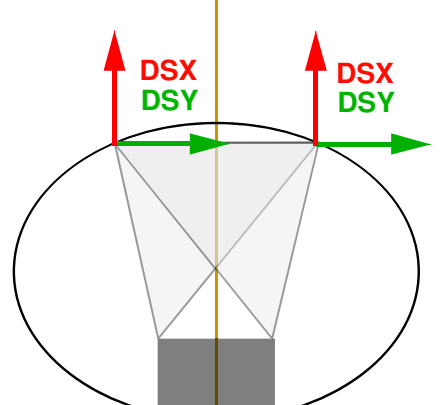
ISO/TS 13499 - RED C : 2013
Chest Deflection
2 Axis - Frontal Impact
2016-05-12



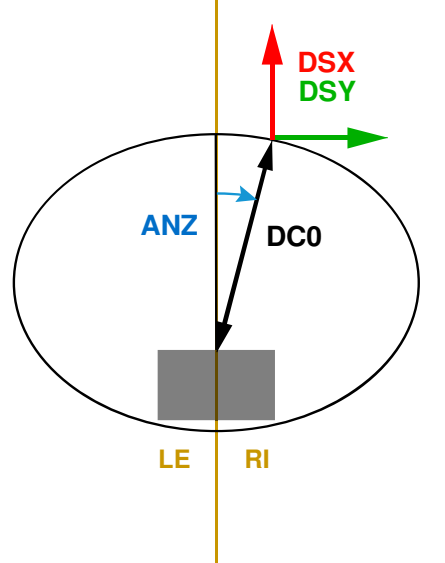


String Potentiometer **H3, HF**
transducer:
CHST LE UP ?? DC 0,1
CHST RI UP ?? DC 0,1
CHST LE LO ?? DC 0,1
CHST RI LO ?? DC 0,1

calculation:
CHST LE UP ?? DS X,Y
CHST RI UP ?? DS X,Y
CHST LE LO ?? DS X,Y
CHST RI LO ?? DS X,Y



RibEye **H3, HF**
calculation:
CHST LE ?? ?? DS X,Y
CHST RI ?? ?? DS X,Y



IR-TRACC 2D **QA**
transducer:
CHST UP 00 QA VO0
CHST UP 00 QA DC0
CHST UP 00 QA ANZ
CHST LO 00 QA VO0
CHST LO 00 QA DC0
CHST LO 00 QA ANZ

calculation:
CHST UP 00 QA DS X,Y
CHST LO 00 QA DS X,Y


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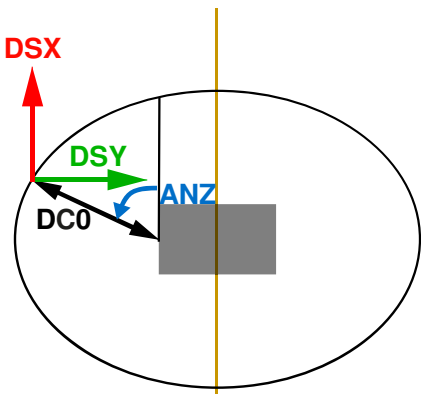
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OTHER Chest Deflection Measurement

Valid since Version 1.6.2p1
Chest Deflection Coding for different dummy types



ISO/TS 13499 - RED C : 2013
Chest Deflection
2 Axis - Side Impact - Variant
2016-05-12



IR-TRACC 2D **WS**

transducer:

SHRI LE 00 WS VOO
SHRI LE 00 WS DC0
SHRI LE 00 WS ANZ
TRRI LE 0? WS VOO
TRRI LE 0? WS DC0
TRRI LE 0? WS ANZ
ABRI LE 0? WS VOO
ABRI LE 0? WS DC0
ABRI LE 0? WS ANZ

calculation:

SHRI LE 00 WS DS X,Y
TRRI LE 01 WS DS X,Y
TRRI LE 02 WS DS X,Y
TRRI LE 03 WS DS X,Y
ABRI LE 01 WS DS X,Y
ABRI LE 02 WS DS X,Y

IR-TRACC 2D **QA**

transducer:


CHST LE UP QA VOO
CHST LE UP QA DC0
CHST LE UP QA ANZ
CHST LE LO QA VOO
CHST LE LO QA DC0
CHST LE LO QA ANZ

calculation:

CHST LE UP QA DS X,Y
CHST LE LO QA DS X,Y

LE

RI




Note that sensor locations and ISO Codes
are different for right side impact.

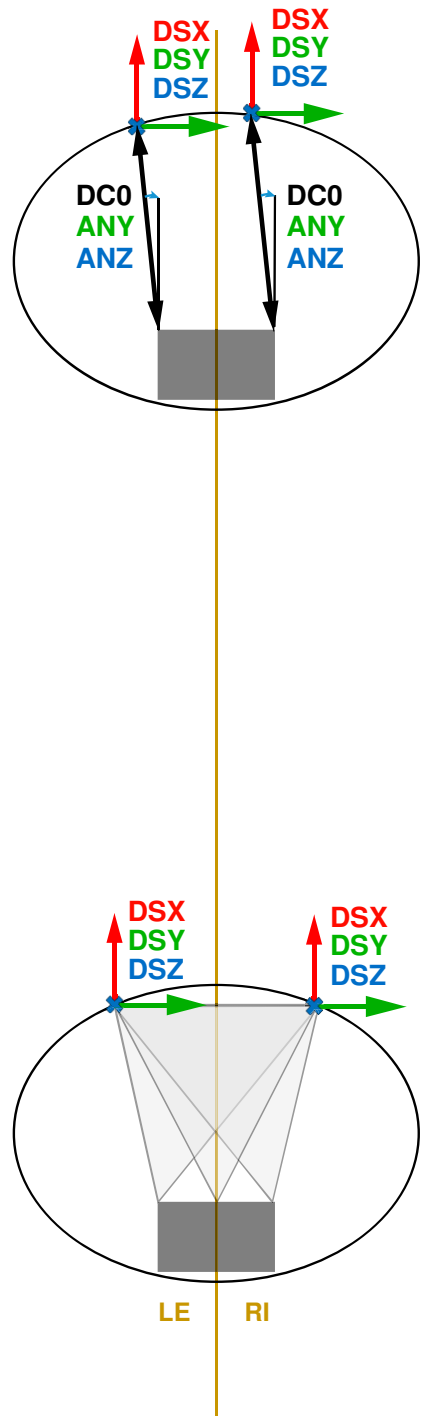
OTHER Chest Deflection Measurement

Valid since Version 1.6.2p1

Chest Deflection Coding for different dummy types



ISO/TS 13499 - RED C : 2013
Chest Deflection
3 Axis - Frontal Impact
2016-05-12



IR-TRACC 3D TH , (THMPR) H3, HF

transducer:

CHST LE UP ?? VOO

CHST LE UP ?? DC0

CHST LE UP ?? ANY

CHST LE UP ?? ANZ

CHST RI UP ?? VOO

CHST RI UP ?? DC0

CHST RI UP ?? ANY

CHST RI UP ?? ANZ

CHST LE LO ?? VOO

CHST LE LO ?? DC0

CHST LE LO ?? ANY

CHST LE LO ?? ANZ

CHST RI LO ?? VOO

CHST RI LO ?? DC0

CHST RI LO ?? ANY

CHST RI LO ?? ANZ

calculation:

CHST LE UP ?? DS X,Y,Z

CHST RI UP ?? DS X,Y,Z

CHST LE LO ?? DS X,Y,Z

CHST RI LO ?? DS X,Y,Z

RibEye H3, HF

calculation:


CHST LE ?? H? DS X,Y,Z

CHST RI ?? H? DS X,Y,Z

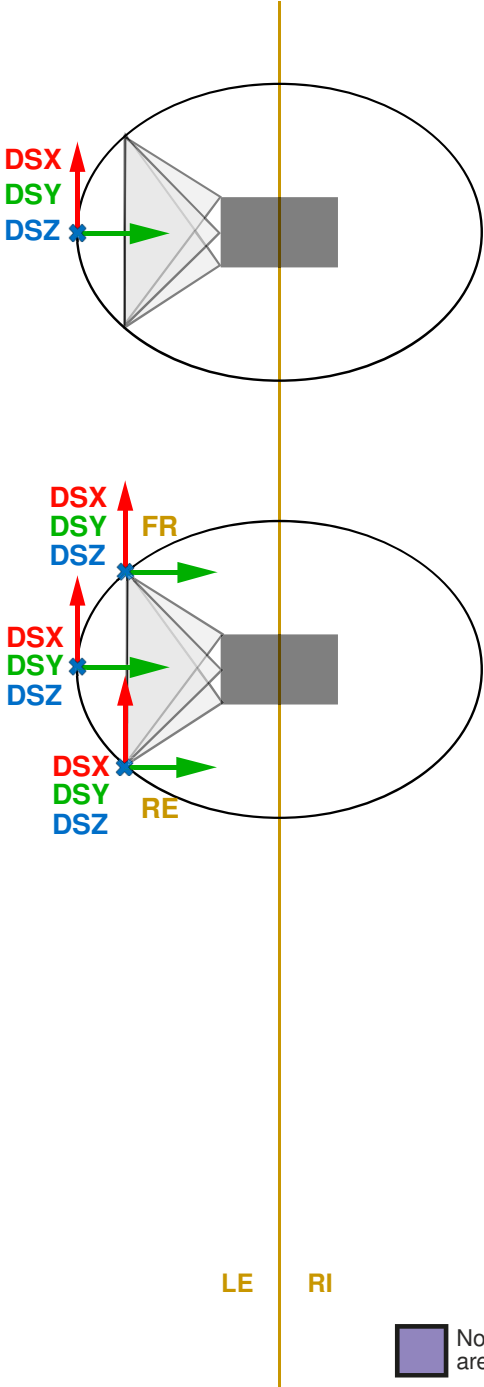
OTHER Chest Deflection Measurement

Valid since Version 1.6.2p1

Chest Deflection Coding for different dummy types



ISO/TS 13499 - RED C : 2013
Chest Deflection
3 Axis - Side Impact
2016-05-12



RibEye S2
calculation:

SHRI	00	LE	S2	DS	X,Y,Z
TRRI	01	LE	S2	DS	X,Y,Z
TRRI	02	LE	S2	DS	X,Y,Z
TRRI	03	LE	S2	DS	X,Y,Z
ABRI	01	LE	S2	DS	X,Y,Z
ABRI	02	LE	S2	DS	X,Y,Z


RibEye WS
calculation:

SHRI	LE	00	WS	DS	X,Y,Z
TRRI	LE	01	WS	DS	X,Y,Z
TRRI	LE	02	WS	DS	X,Y,Z
TRRI	LE	03	WS	DS	X,Y,Z
ABRI	LE	01	WS	DS	X,Y,Z
ABRI	LE	02	WS	DS	X,Y,Z

optional channels

SHRI	LE	FR	WS	DS	X,Y,Z
SHRI	LE	RE	WS	DS	X,Y,Z
TRRI	LU	FR	WS	DS	X,Y,Z
TRRI	LU	RE	WS	DS	X,Y,Z
TRRI	LE	FR	WS	DS	X,Y,Z
TRRI	LE	RE	WS	DS	X,Y,Z
TRRI	LL	FR	WS	DS	X,Y,Z
TRRI	LL	RE	WS	DS	X,Y,Z
ABRI	LU	FR	WS	DS	X,Y,Z
ABRI	LU	RE	WS	DS	X,Y,Z
ABRI	LL	FR	WS	DS	X,Y,Z
ABRI	LL	RE	WS	DS	X,Y,Z

LE RI

 Note that sensor locations and ISO Codes are different for right side impact.

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