



# MUSC4706

A i g]W9bgYa V`Y

HYfa `C.bY` `##`&\$&\$

7 ci fgY`Cj Yfj ]Yk

`GHUZZ7cbhUWhi8YHUJ`g`

`7cbj Ybcfg`

B Ua Y	9a Uj`	5j Uj`UVj]m	@cWUhc b	D\cbY
A Ubc`YH`A cfU	a "a cfU4 i bgk "YXi "Ui	VmUddc]bħa Ybh	F cVYfh K YVghYf`%&(	\$&`-' , ) *, %%

GW\cc``7cbhUWhi`bZcfa Uh]cb

F cca " ` %&ž`Yj Y`` `F cVYfhK YVghYf`6i ]X]b[

D\cbY.`f\$&Ł`-' , ) `( , ) \*

9a Uj]: [gUa 4 i bgk "YXi "Ui](#)

K YVg]H: [\hfdg.#gUa "Ufng"i bgk "YXi "Ui](#)

H\Y`GW\cc``cZħY`5fng`UbX`A YX]U`k ci `X``\_Y`hc`F YgdYWz`m5W\_bck`YX[ Y`ħY`HfUX]h]cbU``7 i għX]Ubgž  
ħY`6YXY[ U`fP`Ybg]b[ ħcb`WUa di gŁž; UX][ U`f7 ]mUbX`5fhi`8Yg][ b`7 Ua di gYgŁ`UbX`ħY`B [ i bbUk U`  
dYcd`Y`f5i ghfU]Ub`8YZ`bVW` : cfW`5WUXYa mi]b`7 UbVYffUŁ`cZħY`UbXg`k \YfY`YUW`WUa di g`cZI`BGK`]g  
`cWUHYX"

7ci fgY'8YHJ]`g

7fYX]h'Dc]bqg`\*`

Gi a a UfmcZ`h\Y'7ci fgY

H\]g`]g`U`dfUW]W]`a`i`g]W]W]i`fgY`h`UhcZYfg`mci`Ub`cddcfi`b]mih`dUfh]W]dU]h`]b`hk`c`gY`Z`gY`Y`W]X`  
YbgYa`V`Yg`"H\Y`A`i`g]W]Dfc[`fUa`c`ZYfg`U`k`]XY`W]c]W]c`Zga`U`"UbX`"Uf[`Y`YbgYa`V`Yg`h`Uh]bWi`XY`W]Ugg]W]z`

## 5ggYgga Ybh

, \$i 'UHYbXUbWV`jg`hY'a ]b]a i a `fYei ]fYa YbhZcfYUWX`YbgYa V`Y`  
 9bgYa V`Y`dUfh]WdUbhg`a i ghUHYbX`U`fY\YUfgU`g`UbX`di V`]WdYfZcfa UbWVg"? YYd`]b`a ]bX`hUh`f%Gca Y  
 YbgYa V`Yg`fYei ]fY`Ui X]hcbg`df]cf`hc`k`YY`\_%`f&EGYj YfU`fYei ]fY`mci `hc`Uj`Y`Ub`]bgf`i a Ybh`hUh`mci `WJb  
 d`Um`f`l`EGca Y`Uj`Y`]a ]h]hcbg`]b`bi a VYf`cZdYcd`Y`k`c`WJb`VY`UWV`dH`X`"f`E`Di`V`]W`A`U]b`dYfZcfa UbWVg  
 UbX`UXX]hcbU`fY\YUfgU`g`UfY`fYei ]fYX`ci`hg]XY`hY`fY`[ i `Uf`fY\YUfgU`h]a`Yg`"Gh`XYbhg`a i ghYbgi`fY`hUh  
 hYgY`UXX]hcbU`fY\YUfgU`g`Xc`bchWJg`k`]h`chYf`Wci`fgYg`#bgYa V`Yg`"8YHJ]YX`]bZcfa Uhcb`UVci`hYUWX  
 YbgYa V`Y`]g`]ghYX`YfY.`\`h]dg.`#g]Ua "Uf]g`i`bgk`"YXi`"Ui`#gh`XYbhg`#Ygci`fWg`#a`i`g]Wgh`XYbhg`#a`i`g]W  
 YbgYa V`Yg`#`C`b`m`Uddfcj`YX`YbgYa V`Yg`c`]bYX`]b`hY`W`ffYbh`h`fa`WJb`VY`i`gYX`Zc`f`Wci`fgY`UggYgga`Ybh`  
 F`Y`Yj`Ubh]bZcfa Uhcb`UVci`hYUWX`YbgYa V`Y`]g`i`gi`U`mi`dXUHYX`VmC`!K`YY`\_`UbX`gh`XYbhg`g`l`ci`X`W`Y`W`\_`Zc`f`  
 Ubmi`dXUHYg`Uh`h`]g`h]a`Y`Z`UbX`]Z`Z`f`h`Y`f`]bZcfa Uhcb`]g`fYei ]fYX`Z`d`Y`UgY`W`b`h`U`W`h`h`Y`G`W`cc`c`Z`5`f]g`UbX  
 A`YX]U`C`Z]W`.\`h]dg.`#g]Ua "Uf]g`i`bgk`"YXi`"Ui`#W`b`h`U`W`i`g`Gh`XYbhg`g`Y`W`W`]b`[`h`Y]f`h`c`YbgYa V`Yg`Zc`f`h`]g  
 Wci`fgY`Xc`gc`cb`h`Y`i`bXYfg`h`bX]b`[`h`Uh`h`Y`m`Uj`Y`fYUX`UbX`i`bXYfg`h`c`X`h`]g`]bZcfa Uhcb`"

## 5ggYgga YbhHUg\_g`

5ggYgga YbhHUg_	K`Y][`h`	8i`Y`8UH`	Gh`XYbh`@YUfb]b[ Ci`hW`a`Yg`5ggYggYX`
9bgYa V`Y`5`7`cbf]Vi`hcb`UbX`DUfh`7`Y`W`]b[`	`\$i`	Bch5dd`]WJ`V`Y`	%`
9bgYa V`Y`6`7`cbf]Vi`hcb`UbX`DUfh`7`Y`W`]b[`	`\$i`	Bch5dd`]WJ`V`Y`	%`
A`U]b`dYfZcfa`UbWV`	&\$i`	Bch5dd`]WJ`V`Y`	%&`
7`ca`dUfU]h]`Y`Yj`U`i`Uhcb`	&\$i`	6`mi`h`Y`Y`bX`c`Zk`YY`_%`\$`	`

## 5ggYgga Ybh8YHJ]`g`

5ggYgga Ybh%`9bgYa V`Y`5`7`cbf]Vi`hcb`UbX`DUfh`7`Y`W`]b[`

GHUfhXUH`Y`Bch5dd`]WJ`V`Y`

8YHJ]`g`. Gh`XYbhgidUfh]WdU]hcb`UbX`W`b`f]Vi`hcb`hc`YbgYa V`Y`fY\YUfgU`g`k`]`VY`UggYggYX`Zcfa`Uhj`Y`m`Z`Vm  
 hY`YbgYa V`Y`X]fY`W`c`f`fY`[ i `Uf`ma`cb]h`c`f]b[ `gh`XYbhg`]b`fY\YUfgU`g`hc`Ybgi`fY`hUh`YUfb]b[ `]g`hU`]b[  
 d`UW`"Gi`a`a`Uhj`Y`UggYgga`Ybh]g`UXa`]b]gh`fYX`h`fci`[`U`dUfh`W`Y`W`]b[ `h`gh`Uh`h`Y`Y`bX`c`Z`h`Y`  
 gYgg]cb":`YYXVUW`\_`8`]fY`W`h`UbX`cb`[`c]b[ `Z`Y`X`V`U`W`\_`Xi`f]b[ `fY\YUfgU`g`UbX`U`Z`Y`f`U`a`U]b`dYfZcfa`UbW`"

5XX]hcbU`XYHJ]`g`.

H`Y`dUfh`W`Y`W`]b[ `h`Y`gh`i`gi`U`m`hU`Y`g`d`U`W`]b`h`Y`k`YY`\_`U`Z`Y`f`h`Y`Z]bU`fY\YUfgU`#`i`V`]WdYfZcfa`UbW`  
 fK`YY`\_%`\$`c`f`f`%`#`8YHJ]`g`c`Z`h`Y`dUfh`W`Y`W`]b[ `h`Y`gh`k`]`V`Y`U`b`b`c`i`b`W`X`"K`Y`f`Y`d`c`g`g]V`Y`Z`\_`Y`Y`d`U`W`d`m`c`Z`U`  
 a`i`g]WdUf]g`#`W`c`fYg`fY\YUfgYX`Xi`f]b[ `h`Y`h`f`a`UbX`V`f]b[ `h`Y`a`hc`h`Y`dUfh`W`Y`W`]b[ `h`Y`gh`

5ggYgga Ybh&`9bgYa V`Y`6`7`cbf]Vi`hcb`UbX`DUfh`7`Y`W`]b[`

GHUfhXUH`Y`Bch5dd`]WJ`V`Y`

8YHU]g. Gh XYbhfidUfh]WdUhc UbX Wcbf]Vi hc b'hc YbgYa VY fY\YUfgU'g'k ]"VY UggYggYX Zcfa Uhj YmžVm  
hY YbgYa VY X]fYWfc fY[ i Uf'ma cb]hc f]b[ 'gh XYbhf ]b fY\YUfgU'g'hc Ybgi fY h\Uh\YUfb]b[ 'jg'hU\_]b[  
d'UW'"Gi a a Uhj Y UggYgga Ybh]g'UXa ]b]ghYfYX h'fc i [ \ 'U'dUfh]WYUW\_]b[ 'h'ghUhH\Y YbX'cZH\Y  
gYgg]cb": YXVUW\_ '8 ]fYVhUbX'cb[ c]b[ 'ZYXVUW\_ Xi f]b[ 'fY\YUfgU'g'UbX UZhf'U'a U]b'dYfZcfa UbW"

5XX]h]cbU'XYHU]g.

H\Y'dUfh]WYUW\_]b[ 'h'ghi gi U'mhU\_Yg'd'UW' ]b'hY'k YY\_ UZhf'hY' ZbU'fY\YUfgU'#di V]WdYfZcfa UbW'  
fK YY\_%\$'cf'f%# "8YHU]g'cZH\Y'dUfh]WYUW\_]b[ 'h'ghk ]"VY Ubbci bW'X"K \YfY'dcgg]VYž'\_\_Yd'U'W'c'micZU'  
a i g]WdUfh]WYUW\_]b[ 'h'gh'fYg'fY\YUfgYX Xi f]b[ 'hY'h'fa 'UbX'vf]b[ 'hYa 'hc'hY'dUfh]WYUW\_]b[ 'h'gh'

5ggYgga Ybh' . 'A U]b'DYfZcfa UbW

6]fUfhXUhf'Bch5dd]WUV'Y

8YHU]g. Gh XYbhf UfY fYei ]fYX'hc'dUfh]WdUhf' ]b'hY'a U]b'dYfZcfa UbW'g'cZH\Y]f'W'cgYb YbgYa VYgžk \]W'  
k ]"VY UggYggYX Vmh\Y YbgYa VY X]fYWfc": YXVUW\_ . [ j] Yb ]b'k f]h]b[ 'UZhf'hY'a U]b'dYfZcfa UbW'"H\]g']g'  
hY ZbU' UggYgga Ybh]Ug\_"

5XX]h]cbU'XYHU]g.

9UW' YbgYa VY'A U]b'DYfZcfa UbW' ]g'U' [ fci d'UW' ]i]miUbX Wcbf]Vi h'g%'\$i 'hc'hY'Wci fgY'a Uf\_'f&\$i ' ]b'  
hc'hU'É"9UW' Di V]WDYfZcfa UbW'k ]"VY UggYggYX Vmh\Y YbgYa VY X]fYWfc'UbX#cf'Ubc'hYf'Yi Ua ]bYf"  
Gh XYbhf]g\ci 'X'VY Uk UfY h\Uh\hY'A U]b'DYfZcfa UbW'UbX'gca Y fY\YUfgU'h]a Y Zcf'YUW' YbgYa VY'a Um  
hU\_Y'd'UW'ci h]XY'hY'fY[ i Uf'gW'YXi 'YX'k YY\_'mfY\YUfgU'h]a Y"

5ggYgga Ybh(. '7a V& gga Ybh(. .

UW

Hi fb]hb'gYhb[ . H\]g'Ugg][ ba Ybh]g'gi Va ]hX'h'fci [ \ Hi fb]hb'UbX'ghi XYbhg'Xc' bchgYY'Hi fb]hb  
g]a ]Uf]mfYdcftrg"

5 hYbXUbW F Yei ]fYa Ybhg

Gh XYbhg UfY gfhcb[ mYbWci fU[ YX'hc UhhYbX'U''WUggYg UbX'fYj ]Yk ''YWhi fY'fYWcfX]b[ g"

7 ci fgY'GWXYXi `Y

[J \]Yk WUgg'hja YhUVY](#)

H]a YhUV`Y`

8UhY	HmdY	7cbhYbh
K YY_% '%+: YVfi Ufm!`&% : YVfi Ufm		7 ci fgY'gWXYXi `Y`]bZcfa Uh]cb`j Uf]Yg`XYdYbX]b[ `cb h\Y`YbgYa V`Yg`W\cgYb"

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

BchiUdd`]WV`Y"

F YWca a YbXYX`F Ygci fWg

BchiUdd`]WV`Y"

7ci fgY`9j U`i Uh]cb`UbX`8Yj Y`cda Ybh

8]fYVhUbX`cb[ c]b[ `ZYXVUW\_`Xi f]b[ `fY\YUfgU`g`UbX`UZf`U`a U]b`dYfZcfa UbW"



Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

Hi fb]hb`Gi Va ]gg]cb

zmc i`YbWci bhYf`U`dfcV`Ya`k` \Yb`U`H`Ya` dh]b[ `hc`gi Va ]hmc i`f`Ugg][ ba YbhHfci [ \`Hi fb]hbzd`YUgY  
H`Y`d`l`cb`Y`9I`H`f`b`U`Gi` ddcfhcb`-`'` ,` )` " ` ' ` ' ` %cf`Ya` U]`H`Ya` `cb`YI`H`f`b`U`H`f`gi` ddcfh4` i` bgk` "YXi` "Ui` "Gi` ddcfh  
`l`ci` fg`UfY` ,` .`\$\$Ua` -`-%\$.`\$\$da` `cb`k` YY`\_`XUmg`U`bX`-` .`\$\$Ua` -`i` )` .`\$\$da` `cb`k` YY`\_`YbXg`f`l` \*)` `XUmg`U`m`Y`U`f`l`" zmc i  
UfY`i` bUV`Y`hc`gi Va ]hmc i`f`Ugg][ ba YbhXi`Y`hc`U`ZU`i`h`k`]H`Hi`fb]hb`mc i`a` UmUdd`m`Zc`f`Ub`YI`H`f`bg]cbz`Vi`hmc i  
a`i` ghf`Y`H]b`mc i`f`h]W`Y`hbi`a` VYf`Z`ca` `9I`H`f`b`U`Gi` ddcfhf`U`cb[ `k`]H`U`bmc`H`Y`f`f`Y`j` UbhXcW`a` Yb`hg`L`hc  
]bW`i` XY`Ug`Y`j`]XYbW`hc`gi` ddcfhmc i`f`YI`H`f`bg]cb`Udd`]W`h]cb" zmc i`Ya`U]`9I`H`f`b`U`Gi` ddcfhmc i`k`]`  
Ui`hc`a`U`h]W`U`m`f`Y`W`]j`Y`U`h]W`Y`hbi`a` VYf`z`Vi`h]Zmc i`H`Y`d`l`cb`Y`mc i`k`]`b`YYX`hc`gd`Y`W`Z]W`U`m`Ug`\_`Zc`f`cbY`"  
Hi`fb]hb`U`gc`d`fcj`]XYg`i`d`XU`H`g`i`cb`H`Y`j`f`gm`gh`Ya` `gh`U`h`g`i`cb`Hk`]H`Y`f`"

; YbYfU`mz`UggYgga YbhHUg\_g`a`i` ghVY`gi Va ]H`Y`X`Y`Y`W`f`cb]W`U`mj`]U`Y`]H`Y`f`Hi`fb]hb`cf`U`A`ccX`Y`  
Ugg][ ba Ybh`H`b`]bg`H`b`W`g`k` \Y`f`Y`H`L`g`]g`b`chid`cgg]V`Y`Z`]h`k`]`V`Y`g`H`Y`X`i`cb`mc i`f`W`ci`fg`Y`g`A`ccX`Y`g`]H`k`]H`  
U`H`f`b`U`h]j`Y`gi Va ]gg]cb`XY`H]`g`"

: cf`]b`Zc`fa`U`h]cb`cb`l`ck`hc`gi Va ]h]Ugg][ ba Ybh`g`cb`]b`Y`j`]U`A`ccX`Y` .` \`H`td`g`#`gh`XYb`h`i`bgk`"YXi`"Ui`#`ack`!  
gi Va ]h]Ugg][ ba Ybh`a`ccX`Y`

## 5 WUXYa ]W<c bYghmUbX 'D`U[ ]Uf]ga

D`U[ ]Uf]ga ]g'i g]b[ 'hY`k cfXg'cf]XYUg'cZchYfg'UbX'dfYgYbh]b[ 'hYa`Ug'mci f'ck b" #WUbb`hU`Y'a Ubm  
Zcfa gž Zca`XY`VYfUHY`WXYU]b[ 'hc`UWVXYbU`mWčdm]b[ Zca`U`gci fW`k ]hci hUW\_bck`YX[ Ya`Ybh'

I BGK`[ fci dg'd`U[ ]Uf]ga`]bhc`hY`Zc`ck ]b[`WUHY`[ cf]Yg.

7cdm]b[.`i g]b[ 'hY`gUa`Y`cf`j`Yfmg]a`]Uf`k`cfXg`hc`hY`cf][ ]bU`hY`hcf`]XYU`k`]hci hUW\_bck`YX[ ]b[ 'hY`  
gci fW`cf`i`g]b[ `ei`chU]cb`a`Uf`g`"H\]g`U`gc`Udd`Yg`hc`]a`U[ Ygž`Uf`h`UbX`XYg][`b`dfc`YWgž`Ug`k`Y`"Ug`  
dfYgYb]h]cbg`k`YfY`gca`YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k`cfXg`k`]hci hWYX]h'

#Uddfcdf]UHY`dUfUd`fUg]b[.`7`U`b[ ]b[ `U`Zk`k`cfXg`UbX`d`fUgYg`k`Y`a`cghmifYU]b]b[ 'hY`cf][ ]bU`  
g]h`i`W`fY`UbX`#`f`dfc`[`fYgg]cb`cZ]XYUg`cZ`hY`cf][ ]bU`ž`UbX`]bZcfa`U]cb`k`]hci hUW\_bck`YX[ Ya`Ybh`H\]g`U`gc`  
Udd`Yg`]b`dfYgYb]h]cbg`k`YfY`gca`YcbY`dUfUd`fUgYg`UbchYf`g`]XYUg`cf`k`cfXg`k`]hci hWYX]h]UbX`hc`  
d]Y]b[ 'hc[ Y`hYf`ei`chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk`k`Y`c`Yž`k`]hci hUddfcdf]UHY`fYZYfYbW]b[ "

7c`i`g]cb.`k`cf\_]b[ `k`]h`chYfg`Vi`hdUgg]b[ `cZ`hY`k`cf\_]Ug`U`dYfgcb`g`]bX]j`]Xi`U`k`cf\_]7c`i`g]cb`U`gc`  
]bW`i`XYg`dfcj`X]b[ `mci`f`k`cf\_]hc`UbchYf`gh`XYbhVYZc`fY`hY`Xi`Y`XUHY`ž`cf`Zc`f`hY`di`fdcgY`cZ`hY`a`  
d`U[ ]Uf]g]b[ `Uh`Ubm]h]a`Yž`dUm]b[ `UbchYf`dYfgcb`hc`dYfZc`fa`Ub`UWUXYa`]W]Ug`ž`ghYU`]b[ `cf`UWč`i`]f]b[  
UbchYf`dYfgcb`g`UWUXYa`]Wk`cf\_]UbX`Wč`dm]b[ `]ž`cZ]f]b[ `hc`Wč`a`d`Y`h`UbchYf`dYfgcb`g`k`cf\_]cf`gYY\_]b[  
dUma`YbhZc`f`Wč`a`d`Y]b[ `UWUXYa`]Wk`cf\_]`

#Uddfcdf]UHY`W]h]cb.`7`]b[ `gci`fW`g`k`Y`W`Uj`Y`bchVYYb`fYUXž`k`]hci hUW\_bck`YX[ ]b[ `hY`"gYWč`bXUfm`  
gci`fW`Zca`k`Y`W`\_bck`YX[ Y`cZ`hY`a`U`g`VYYb`cV]h]bYX"

8i`d`]W]h]cb`f`f`gY`Z`d`U[ ]Uf]ga`"L`gi`Va`]h]b[ `mci`f`ck`b`k`cf`ž`]b`k`Y`cf`]b`dUf`ž`k`YfY`]h`Ug`dfYj`]ci`g`m`  
VYYb`dfYdUfYX`cf`gi`Va`]hYX`Zc`f`UbchYf`UggYgga`Ybhcf`Wč`i`fgY`Uh`I`BGK`cf`UbchYf`i`b]j`Yfg]m`

7c`fY`W`i`fYZYfYbW]b[ `dUfUW]W]g.

- DUfUd`fUg]b[ žgi`a`a`Uf]g]b[ žYggUmk`f]h]b[ `UbX`h]a`Y`a`UbU[ Ya`Ybh`



