

GLVWULEXWLRQ DQG UHSURGXFWLRQ LQ DQ\

\$EVWUDFW

\$ERXW

FRPSDUDEOH WR WKRVH RI QHXWUDOO\ DO
WKH UHVXOWV > @

RI WKH FDVHV ZLWK GHJHQHUDWLYH RVWHRDUWKULWLV RI WKH DQNOH DU
IDU PRUH IUHTXHQW WKDQ YDOJXV DQNOH RVWHRDUWKULWLV ORVW RI WKH FDV
DHWLRORJ\ ,W LV LPSRUWDQW WR XQGHUVWDQG WKH GHIRUPLW\ FRPSOHWHO\ DO
SODQH IURP PRUH GLPHQVLRQDO FRPSOH[FDYRYDUXV GHIRUPLWLV LQYROYLQJ
OLJDPHQW DQG WHQGRQ LPEDODQFHV DQG SDWKRRORJLVH QHHG WR EH LGHQWLILH
LQFOXGH WKH PHFKDQLFDO D[LV RI WKH FRPSOHWH OHJ 0XVFXODU LPEDODQFHV Q

(YHQ VXEVWDQWLDO GHIRUPLWLV LQ YDUXV DQNOH RVWHRDUWKULWLV FDQ EH V
LI D SODQWLJUDGH IRRW ZLWK EDODQFHG OLJDPHQWV DQG WHQGRQV FDQ EHOPE

UHDOLJLQJ RVWHRWRPLHV IXVLRQV DQG FRUHFWRQ RI WHQGRQ DQG OLJDPHQ

RI WKH SDWLHQWV ZLWK DGYDQFHG DUWKULWLV FDKDJHV RI WKH DQNOH MRLQW
DUH D[LV GHYLDWLRQV LQ WKH IURQWDO SODQH YDUXV GHIRUPLWLV DUH DERXW
WLVHV PRUH IUHTXHQW WKDQ YDOJXV GHIRUPLWLV WR @EH7R DFKLHYH WR FR
UHVXOWV LW LV HVVHQWLDO WR FRQGHUWHV WSHFFHQW DFDXUHV RI FOY
UHSODFHQW LQ YDUXV DQNOH RVWHRDUWKULWLV DWLG OHYH LQ WKH IURQW
D VWUXFWXUH DSSURDFK WR GHIRUPLWLV DQG WUHDWPHQW LQ YDUXV
DQNOH RVWHRDUWKULWLV GLIIHUHQW OHYHOV RI WKH ORZHU OLPE IU

3UHRSHUDWLYH SODQQLQJ

ORVW DXWKRUV OLPLW WRWDO DQNOH UHSODFHQWV SDWLHQWV ZLWK D
GHIRUPLW\ LQ WKH FRURQDU\ SODQH RI LPSRUWDQW WR > @YHIDLQXHUJYK ORRI
ZLWK FRQYHUVLRQ WR DQNOH IXVLRQ ZLWK DLRQV WKH SRVWQW ZLWK PR
YDUXV GHIRUPLW\ RI r RU PRUH SHUVRQDUWKULWLV @HT&RUHQ DGGLWLRQD
GHIRUPLWLV RI r RU PRUH DV D FRQWDLQSDUWKULWLV LQ DQNOH LQYROYLQJ
> @ 7KH\ GHVFULEHG D KLJK LQFLGHQFH RI WHQGRQ LQ WUHDWPHQW DQG
VXEVHTXHQW LPSODQW IDLOXUH LQ WKLW SDWLHQW JURXS

,Q JHQHUDO FRUHFWRQJ WKH RVWHRDUWKULWLV DQG DUWKULWLV ZLWK
OLJDPHQW DQG WHQGRQ EDODQFH VLOXQPHWV ZEK@HYH UHDEOH WR DV
RI WKH IRRW 6WDQGLQJ YLHZV RI WKH ZK
LQIRUPDWLRQ DERXW WKH PHFKDQLFDO D[

/RFDWLRQ DQG H[WHQW RI WKH GHIRUPL
SULQFLSOH &HQWHU RI 5RWDWLRQ DQG
HYHU\ SODQH QHHG WR EH UHVSHFWHG L
QHFHVVDU\ > @ ,W LV HVVHQWLDO WR

LQFUHDVHG SODQWUIOHFWLRQ RI WKH ILUVW PHWDWUVDU 7KLV ZRUVHQV W
GHIRUPLW\ LQ WKH VHQVH RI D IRUHRRW LQGXFHG KLQGIRRW GHIRUPLW\ > @

7KH ORDG D[LV DQG WKH SRLQW RI KHHO VWULNH DUH PHGLDOLJHG DQG WKH
WDOXV LV KRUL]RQWDOLJHG 7KLV LQGXFHV IUHTXHQWO\ YHQWUDO LPSLQJHPHQW
WKH DQNOH MRLQW LQKLELWLQJ GRUVDU H[WHQVLRQ VLJQLILFDQWO\ 0RUHRYHU
WHQVLRQ RI WKH KHHO FRUG LV FRPPRQO\ LQFUHDVHG ZKLFK IXUWKHU
FRQWULEXWHV WR WKH LPSDLUHG GRUVDU H[WHQVLRQ > @

,Q DGGLWLRQ WR WKH RVVHRXV PDODOLJQPHQW OLJDPHQW DQG WHQGRQ
SDWKRORJLHV QHGG WR EH LGHQWLILHG DQG DGGUHVVHG LQ WKH FRUHFWR
> @

7KH DPRXQW RI WKH GHIRUPLW\ DQG LWV H[DFW ORFDOLVDWLRQ QHGGV WR EH
GHWHUPLQHG 5DQJH RI PRWLRQ DQG OLJDPHQW VWDELOLW\ RI WKH DQNOH QHGG
WR EH LQVSHFWHG ,W LV HVVHQWLDU WR GLVWLQJXLVK ULJLG IURP IOH[LEO
KLQGIRRW GHIRUPLWLHV 7KH &ROHPDQ %ORFN 7HVW FDQ EH XVHG IRU FRUHFWR
GLIIHUHQWLDWLRQ > @

2XU VWDQGDUG DSSURDFK IRU WRWDO DQNOH UHSODFHPHQW LV WKH LQWHUYD
EHWZHHQ WKH WLELDOLV DQWHULRU WHQGRQ DQG WKH H[WHQVURU KDOOXFLV OR
WHQGRQ > @

([WUDDUWLFXODU GHIRUPLW\ SUR[LPDO WR WKH DQNOH MRLQW

([WUDDUWLFXODU GHIRUPLWLHV SUR[LPDO WR WKH DQNOH MRLQW DUH XVXDOO\
SRVWWUDXPDLF RULJLQ DQG RULJLQDWH IURP PDOXQLWHG GLVWDO WLELDOLV
IUDFWXUHV 7KH\ VKRXOG EH FRUHFWRHG DW WKH OHYHO RI WKH GHIRUPLW\
DFFRUGLQJ WR WKH &25\$ SULQFLSOH 'HSHQGLQJ RQ WKH OHYHO RI WKH
GHIRUPLW\ VRPHWLPHV D VHSUDUWH VNLQ LQFLVLRQ LV QHFHVVDU\ \$Q
DSSURSULDWH GLVWDQFH WR WKH RWKHU VNLQ LQFLVLRQV VKRXOG EH FRQVLGH
,Q PRVW RI WKH FDVHV H[WHQGLQJ WKH VWDQGDUG DQWHULRU DSSURDFK IRU
DQNOH UHSODFHPHQW SUR[LPDOO\ ZLOO DOORZ IRU VXILFLHQW H[SRVXUH 9DUX
GHIRUPLWLHV RI WKH GLVWDO WLELD FDQ EH FRUHFWRHG HLWKHU ZLWK D PHG
RSHQLQJ ZHGJH VXSUDPDOOHRODU RVWHRWRP\ D GRPH RVWHRWRP\ RU D
ODWHUDO FORVLQJ ZHGJH VXSUDPDOOHRODU RVWHRWRP\ > @ ,Q RXU
SUDFWLFH ZH SUHIHU WKH PHGLD RSHQLQJ ZHGJH RVWHRWRP\ DV WKH ODWHUD
FORVLQJ ZHGJH RVWHRWRP\ UHTXLUHV DQ DGGLWLRQDO RVWHRWRP\ RI WKH
ILEXOD > @ 8VXDOO\ FRUHFWRQ RI ODUJHU GHIRUPLWLHV ZLWK D WLELD
PDODOLJQPHQW RI r RU PRUH UHTXLUHV D FRUHFWRLYH ILEXOD RVWHRWRP\ WR

GHIRUPLWLHV > @ 3HUVLVWLQJ LQIUDPDOOHRODU YDUXV GHYLDWLRQ FDQ EH
FDXVHG E\ GHIRUPLWLHV RI WKH FDOFDQHXY WKH VXEWDODU MRLQW RU LPEDODU
RI WKH PXVFOHV DFWLQJ RQ WKH KLQGIRRW OLNH D FRQWUDFWHG WLELDOL
SRVWHULRU WHQGRQ RU DQ LPSDLUHG IXQFWLRQ RI WKH SHURQHXY EUHYLV
PXVFOH

,I WKH KHHO VWD\ V LQ YDUXV SRVLWLRQ ZH SHUIRUP D ODWHUDO VOLGLQJ
RVWHRWRP\ RI WKH KHHO 7KLV VXUJLFDO SURFHGXUH VKRXOG EH SHUIRUPHG LQ
SDWLHQWV ZLWK IOH\LEOH VXEWDODU MRLQW ZLWKRXW UHOHYDQW GHJHQHUD
FKDQJHV 'HSHQGLQJ RQ WKH GHIRUPLW\ WKH KHHO FDQ EH VKLIWHG
PP ,Q ELJ GHIRUPLWLHV UHPRYLQJ D ODWHUDO EDVHG ZHGJH RI ERQH
'Z\HU RVWHRWRP\ PD\ LQFUHDVH WKH SRZHU RI WKH FRUUHFWLRQ > @
\$] VKDSHG RVWHRWRP\ RI WKH FDOFDQHXY LQ ODUJH GHIRUPLWLHV DOORZLQJ W
FRUUHFV WKH XQGHU\LQJ PDODOLJQPHQW LQ VHYHUDO SODQHV DW D WLPH > @

,Q SDWLHQWV ZLWK D ULJLG LQIUDPDOOHRODU PDODOLJQPHQW RU UHOHYDQW
GHJHQHUDWLYH FKDQJHV RI WKH VXEWDODU MRLQW ZH XVH D FRUUHFWLYH VXEW
IXVLQJ RU D WULSOH DUWKURGHVLV WR UHVWRUH DOLJQPHQW > @

,Q FDYRYDUXV GHIRUPLWLHV RI WKH FRUUFHQW\ SODQWDU
IOH\HG ZLWK PDUNHG IRUHIRRW SURQDWLRQ 7KLV LQIOXHQFHV WKH KLQGIRRW D
D FIRUH IRRW GULYHQ KLQGIRRW GHIRUPLW\g :H WUHDW WKHVH FDVHV ZLWK D
GRUVD O H\WHQGLQJ RVWHRWRP\ RI WKH PHGLDO FXQHLIRUP > @ RU RI WKH
SUR\LPDO VW PHWDWDUVDO > @ 8VXDOO\ D UHOHDVH RI WKH SODQWDU IDV
LV QHFHVVDU\ IRU HIILFLHQW FORVLQJ RI WKH RVWHRWRPLHV > @ 2VWHRWRPL
RI WKH PHGLDO FXQHLIRUP DOORZ IRU D JUHDWHU FRUUHFWLRQ WKDQ WKRVH R
WKH PHWDWDUVDO

,Q YDUXV DQNOH RVWHRDUWKULWLV WKH JDVWURF VROHXV FRPSOH\ LV
IUHTXHQWO\ VKRUWHQHG 7KH 6LOIYHUVNO,OG WHVW > @ DOORZV GLVWLQJXLV
D VKRUWHQLQJ RI WKH JDVWURFQHPLXV IURP D VKRUWHQLQJ RI WKH KHHO FRUG
:H XVXDOO\ XVH WKH JDVWURF VROHXV UHFHVVLQJ DV GHVFULEHG E\ %DXPDQQ
> @ WR DGGUHVV VKRUWHQLQJ RI WKH JDVWURF VROHXV DQG WULSOH
KHPLVHFVLRQLQJ RI WKH DFKLOOHV WHQGRQ LQ FDVHV ZLWK VKRUWHQHG DFKLO
WHQGRQ > @ ,I WKH KLQGIRRW LV LQ D YDUXV SRVLWLRQ GRLQJ FXWV RI WK

