

**TITLE:** HAVE ANESTHESIOLOGISTS IMPLEMENTED INFECTION CONTROL PRECAUTIONS?

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A survey of anesthesia personnel (anes) performed in 1988 revealed they were not protecting themselves or their patients (pts) from exposure to infectious diseases.<sup>1</sup> Since then determined efforts have been made by the CDC<sup>a</sup> and ASA<sup>b</sup> to make anes aware of precautions.<sup>2,3</sup> We resurveyed anes to determine if practice (prac) habits have changed.

After administrative approval 653 anes (482 attendings (attend), 141 residents (res), 30 others) completed a questionnaire at the 1989 New York State Society of Anesthesiologists (NYSSA) meeting (20% of anes registered). Questions concerned prac of wearing gloves, protective eyewear, recapping used needles, reusing common syringes (syr) or vasopressor (vasop) syr from pt to pt or changing needles before reusing syr, belief that blood can contaminate a needle placed in the injection port (inj port) of an IV line, and if the anes was vaccinated (vac) against hepatitis. Practice habits of anes toward themselves and their pts were determined. Comparisons were made ( $\chi^2$ ) to determine significance (at  $p < 0.05$  level) between city vs suburb/rural; res vs attend; and NYSSA 1988 vs 1989 responses.

While there has been a significant (sig) change in some aspects of self protection from 1988 to 1989 there has been no sig change in prac habits towards pts. (Table I) 63% reuse syr from pt to pt whether or not they change needles (61% in 1988). Of this number 40% claim they always change needles before reusing syr. 49% reuse vasop syr from pt to pt (47% in 1988).

The 1989 survey results are presented in Tables II & III. In addition, of 79% who believe a needle becomes contaminated in the inj port of an IV 60% reuse syr and 40% reuse vasop. syr. Res have been vac against hepatitis more frequently (freq) than attend ( $p < 0.001$ ) and wear

gloves for arterial lines more freq ( $p < 0.0005$ ) although they reuse syr at the same rate. City anes use stopcocks more freq ( $p < 0.05$ ), have been vac against hepatitis ( $p < 0.001$ ), and reuse syr less freq ( $p < 0.05$ ) than suburb/rural peers.

While there has been sig improvement in some areas by anes in implementing self-protective measures the same can not be stated for practices dealing with pt to pt care. Education has to continue to implement strict adherence to CDC guidelines.

TABLE I - 1988 vs 1989 RESULTS

	1988	1989	Significance
CHANGE IN WEARING GLOVES	47%	79%	$p < 0.001$
VACCINATED AGAINST HEPATITIS	53%	61%	$p < 0.02$
RECAP NEEDLES	79%	86%	$p < 0.001$
REUSE COMMON SYRINGES	61%	63%	N.S.
REUSE VASOPRESSOR SYRINGES	47%	49%	N.S.

TABLE II - 1989 ANESTHESIA PERSONNEL PRACTICE - PT TO PT

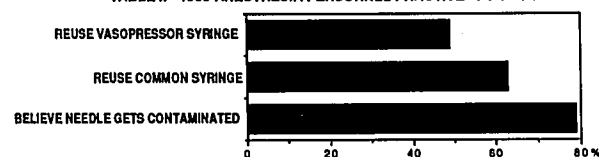
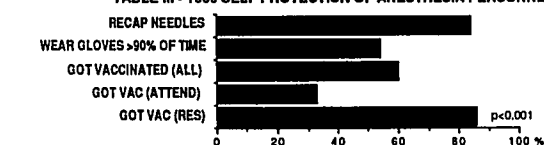


TABLE III - 1989 SELF PROTECTION OF ANESTHESIA PERSONNEL



1. Anesth: A949, 1989
  2. MMWR 37:377-382, 382-388, 1988
  3. Berry AJ: Practice Advisory, ASA Newsletter 53:4-8-9, 1989
- a. Centers for Disease Control      b. American Society of Anesthesiologists

A1016

**TITLE:** WHAT IS THE BEST METHOD TO AVOID HOMOLOGOUS TRANSFUSION?

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Concern about acquiring an infectious disease such as hepatitis or AIDS from a blood transfusion has resulted in use of predonated autologous blood (PredAutoB), intraoperative cell salvage machines (CellSav), and postoperative salvage and reinfusion devices (PostOpDev) in an attempt to decrease the chances of requiring an homologous transfusion (HT). These techniques might be used individually or in combination during perioperative care. We reviewed hospital records of 233 patients (pts) undergoing total hip replacement (THR) to determine which technique or combination of techniques is best for avoiding HT.

Hospital records of 233 pts who underwent THR were studied. Number of units (U) of PredAutoB, estimated intraoperative blood loss (EBL), admission hematocrit (adm Hct), whether a CellSav was employed, whether a PostOpDev was employed, and if pt required HT were evaluated. Nine groups including individual or combination techniques were evaluated. (Table I) The percent of pts requiring HT within each group was determined. EBL and adm Hct for each group was determined as the mean  $\pm$  1SE. Analysis of variance was performed to determine significant difference in EBL or adm Hct between groups.  $\chi^2$  analysis was employed to determine if any group had a significant decrease in HT requirement.

Ninety-six percent of pts that predonated 2U, used the CellSav, and PostOpDev were able to avoid HT. These pts had a significantly decreased requirement for HT when compared with other groups ( $p < 0.05$  to  $p < 0.0002$  Table I). There was no significant difference between this group and others for EBL ( $p < 0.05$ ) or adm Hct ( $p < 0.05$ )

except that this group had a lower adm Hct than Group 1. Using devices (CellSav and PostOpDev) without predonating 2U was not as effective as the combination of all three ( $p < 0.0002$ ). The additional use of the PostOpDev with 2U PredAutoB and CellSav decreased HT requirements ( $p < 0.05$ ). When compared with just predonating 1U or none at all, predonation of 2U was significantly better in avoiding HT ( $p < 0.01$ ).

Our study shows that the combination of 2U PredAutoB, CellSav, and PostOpDev is the best technique for avoiding HT in pts undergoing THR. The major role PredAutoB programs play in decreasing HT is underscored by the fact that CellSav and PostOpDev without PredAutoB was not as effective in decreasing HT requirements as the combination of all three. When possible, a pt undergoing THR should predonate at least 2U, and have access to both a CellSav and a PostOpDev to minimize the chance of receiving a HT.

TABLE I

Grp	Units Pred-Auto B	Cell Saver	Post-op Reinfusion Device	Received Homologous Transfusion No Yes	% Avoiding HT	Significance Compared with Group 9
1	0	No	No	16 21	43	$p < 0.0002$
2	0	Yes	No	14 19	42	$p < 0.0002$
3	0	Yes	Yes	13 18	42	$p < 0.0002$
4	1	No	No	7 6	54	$p < 0.01$
5	1	Yes	No	10 2	83	x
6	1	Yes	Yes	14 6	70	$p < 0.01$
7	2	No	No	9 3	75	$p < 0.05$
8	2	Yes	No	22 4	85	$p < 0.05$
9	2	Yes	Yes	47 2	96	Group 9

HT = Homologous transfusion

Pred auto B = predonated autologous blood

x = Patient group not large enough for evaluation; grp = group